REGIONAL PARKING STRATEGIES
FOR CLIMATE PROTECTION

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Executive Summary

Climate change has come to the fore as a major issue for planners, policymakers, elected officials, and the public. The recent enactment of Governor's Executive Order S-3-05 (2005), Assembly Bill 32 (2006), and Senate Bill 375 (2008) in California have established state targets for Greenhouse Gas (GHG) emissions and tasked regional agencies with a critical role in assisting local jurisdictions in reducing transportation-related GHG emissions.

Accordingly, the Joint Policy Committee (JPC) of regional public agencies in the San Francisco Bay Area – including the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), the Bay Conservation and Development Commission (BCDC), and the Bay Area Air Quality Management District (the Air District) – is considering how best to provide climate protection solutions for the Bay Area. Taking a major step in 2009, the JPC provided general approval for inclusion of smart parking reforms – policies and practices targeted at eliminating hidden incentives for driving – as an integral component of the Regional Climate Action Program.

In the Bay Area, the transportation sector is the greatest single contributor of Greenhouse Gas emissions. Parking reform offers significant opportunities for immediate and longer-term reductions in greenhouse gas production from the transportation sector for the following reasons:

- **Large impact.** Parking cash-out and pricing significantly impact vehicle miles of travel, based on both theory and findings from studies of application in numerous locations.
- **Quick results and longer-term impacts.** Parking reform can help reduce existing vehicle trips immediately through influencing mode choice and also have additional longer-term positive impacts through influence on future developments.
- **Low cost or revenue producing.** These programs are relatively low-cost, free or earn significant revenue that can be reinvested in additional programs that help reduce emissions.
- **Public support.** Pricing parking is likely to be more practical and politically viable than pricing trips through cordon pricing or road tolls.
- **Pro-market and pro-smart growth.** Most cities require that developers build more parking than the market warrants; parking reforms can improve the efficiency of the regional economy in general, and in particular reduce the cost to build new housing and commercial buildings, especially in transit-rich and walkable locations.
- **Region-wide applicability.** Reforms to parking policies can bring results throughout the region, using different specific strategies to match different conditions.
- **Socially equitable.** Compared to other options for reducing CO_2 emissions, changes to parking policies result in the best social equity impacts.

Rationale for Regional Reform

The purpose of this paper is to provide expert recommendations for immediate and longer-term regional parking policies for the Bay Area, with information about potential timing, criteria for selecting particular policies, expected effectiveness, and approaches to addressing implementation issues. Local parking policies such as minimum off-street parking requirements for housing and commercial buildings and provision of free or under-priced on-street parking create powerful incentives to the public to drive. These incentives are typically built into parking policies and zoning codes of local governments, and are often included as a matter of course without regard for local conditions or other options. A number of communities have demonstrated the efficacy of parking management and innovation through simple reforms to local parking policies and management practices that have made a big difference. Some key potential local reforms are explained in greater detail in Appendix A.

However, widespread local adoption of such necessary reforms is unlikely to occur without coordinated action at the regional level. There are several key reasons why voluntary local actions may not provide sufficient regional change, including the perception by cities that they need to compete for retail customers through the use of free parking, neighborhood concerns about the potential for “spillover” impacts, and the lack of local constituencies in favor of pricing parking and parking reform due to the largely hidden nature of parking subsidies.

These local barriers could be largely overcome with a regional framework based approach to parking management that coordinates policies within travel corridors, levels the playing field across city and county boundaries, and facilitates coordination with other regional strategies to support more climate friendly land use and transportation, including MTC/ABAG’s station area planning, the FOCUS program, the Air District’s indirect source rule, MTC Resolution 3434 TOD requirements, and other policies to support non-auto modes of travel and supportive land uses.

Regional Strategies for Implementation

The four regional agencies can address externalities and help achieve GHG reduction goals of AB32 and SB 375, by working collaboratively to align the interests and garner the cooperation of local governments and other parking stakeholders. Given their limited authority, and the complexity of the issue at hand, the regional agencies will need to be strategic and innovative in the utilization of their respective and collective resources and authorities to promote – and in some cases to compel – local governments and stakeholders to implement reforms.

In this report, we recommend that the regional agencies immediately pursue the following regional strategies as Climate Priorities in 2010. These are the “low hanging fruit” of regional parking reform, and as of January 2010, MTC is already moving forward with recommendations (1)-(4).

1. **Lead by example**: Implement full-cost/market-based parking pricing, parking cashout, and transportation demand management (TDM) programs for all JPC/regional agency employees.
2. **Expand technical assistance and regional clearinghouse functions:** Expand current local technical assistance programs for local governments to help developers, lenders, property owners, and employers implement climate friendly parking policies.
3. **Initiate a Green Parking Certification Program** to recognize and reward local governments that successfully implement parking reforms.
4. **Provide grants to local governments to encourage local reforms**
5. **Offer performance-based vehicle trip reduction grants** to innovative employers, local governments, and third-party entrepreneurs who can demonstrate results in reducing trips

within specific corridors, similar to the "Corridor Trip Reduction" program operated by the Washington State Department of Transportation (WSDOT), which sets a price per trip reduced and pays based on performance.

The JPC should immediately reach-out to involve other key transportation agencies, as follows:

6. **Engage CMAs as key partners** in supporting climate friendly parking policies directly through project evaluation and selection and by managing and providing support efforts by local jurisdictions.
7. **Engage transit agencies** in supporting climate friendly parking policies through agency parking policies, station area development plans and coordination with local jurisdictions.

The following strategy options represent the "sticks" of regional parking reform. JPC members should pursue at least one of these approaches to ensure the region-wide adoption of local parking reforms, in order to achieve aggressive GHG emissions reduction targets:

8. **Air District Regulation:** If the Air District is vested with authority to regulate GHG emissions by the federal government, Nelson\Nygaard recommends that the agency enact requirements that cities amend their zoning and municipal codes to implement a selection of the effective municipal parking reforms identified in Appendix A or directly regulate the supply and management of parking on private property as indirect sources of GHG emissions.
9. **Levy climate change impact fees on parking:** The region may be able to encourage parking reforms by local government, employers, and property-owners by levying a per-space climate change impact fee on parking under the Air District's existing authority to regulate "indirect sources," of pollution, its GHG emissions cost recovery fee, or by securing new authority for MTC, through legislative action, using graduated payment schedules that correspond to pricing policies. Fee revenue could be returned to local governments for expenditure on transportation projects and/or programs that reduce per capita GHG emissions.
10. **Condition distribution of transportation funding on local reforms:** As part of, or similar to MTC's Transit Oriented Development (TOD) Policy ("Resolution 3434"), MTC could condition distribution of various regional transportation funding on the adoption at the local level of "smart" parking management policies.
11. **Require 'unbundling' and vehicle trip reduction ordinances:** Through the Sustainable Communities Strategy (SCS), ABAG could require or provide incentives to its member cities to: (a) implement selected TDM programs, and parking policy and management reforms from a checklist of options and/or (b) adopt legislation requiring the unbundling of parking spaces from leases for commercial and residential space.

Implementation, performance monitoring, and enforcement

The JPC member agencies will need to design effective and accountable performance monitoring and program enforcement measures that (1) are easy to administer, (2) provide employers, property-owners, and local governments with flexibility, avoiding the pitfalls of previous state and regional employer vehicle trip reduction regulations, and (3) ensure effectiveness relative to regional goals for VMT and GHGe reduction.

The larger regional climate protection campaign

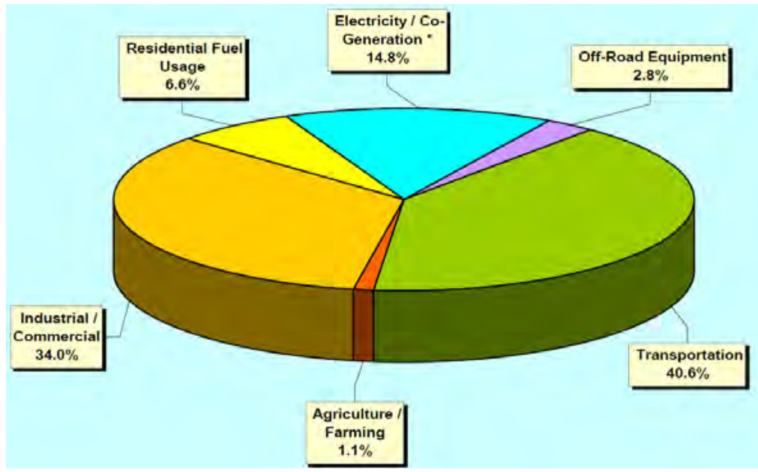
Some of the parking management strategies recommended are bold, innovative and untested, but innovation is clearly necessary to address the new challenges to a healthy environment that we face due to unprecedented climate change, and are essential elements of a larger regional response to climate change. Those policies selected for implementation within one to two years should be advanced immediately by the JPC as part of its Regional Agency Climate Priorities for 2009-2010, while the more significant reforms selected for implementation over two to five years should be planned and implemented either (a) as integral parts of the development of the Sustainable Communities Strategy (SCS), to be developed by MTC and ABAG, per SB 375, or (b) independently by the JPC, or one or more of its member agencies.

Organization of this paper

After a brief introduction (Section 1), the paper begins with an assessment of the relevant interests, authorities and relationships of each of the major stakeholders in local and regional parking policies (Section 2). Section 3 presents a set of criteria for evaluating the effectiveness, and political and financial feasibility of a series of regional parking reform strategy options that are described in Section 4. The paper concludes with a recommended approach for monitoring and evaluating implementation and performance, and a summary of recommended actions and strategies, including those that can be implemented immediately as Regional Agency Climate Priorities for 2010, and strategies that best produce desired GHG emissions reductions at the regional level.

Section 1. Introduction

Figure 1-1 Bay Area GHGe by Sector



Source Inventory of Bay Area Greenhouse Gas Emissions, Base Year 2007, Bay Area Air Quality Management District, December 2008.

In the San Francisco Bay Area, approximately 40% of GHG emissions come from the transportation sector[1]. Although the state is actively pursuing strategies to improve vehicle fuel efficiency and local voters continue to support expansion of public transit and other transportation alternatives, little has been done to date to address the important links between parking, travel mode choice, and consequent GHG emissions[2].

Empirical travel behavior research – supported by economic theory – has provided overwhelming evidence that parking price (money cost) and availability (time cost) are key factors influencing travelers' choice of both travel mode and travel time (e.g. peak or off-peak)[3]. Over supply of parking or parking priced below market rates can create excess vehicle travel ("induced demand").

Currently, management of public parking, and regulation of the supply of private, off-street parking is almost entirely within the purview of local jurisdictions. This includes:

- Regulating, managing, pricing, and maintaining public on-street parking
- Developing and operating public off-street parking facilities
- Setting off-street parking requirements for new development projects and new uses of existing sites and buildings

The vast majority of the region's non-residential, off-street parking supply is privately-operated parking, under the purview of a multitude of individual businesses, property owners, building managers, and for-profit parking management companies[4].

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[1] *San Francisco Bay Area GHG Emissions Inventory* (2008), Bay Area Air Quality Management District

[2] Estimated reductions in GHG emissions as a result of future improvements in clean vehicles and alternative fuels are generally predicted to be offset by estimated future increases in VMT

[3] Shoup, Donald C. (2005). *The High Cost of Free Parking*, Washington, DC: American Planning Association, APA Planners' Press.

[4] A detailed survey of all on and off-street parking spaces in Walnut Creek found a total supply of 7040 spaces, with the largest share (48%) in private lots, available to customers and employees of local businesses free of charge; 20% in other private garages, 23% in public off-street parking facilities, and only 8% on-street (Nelson\Nygaard Consulting Associates (2006), *Downtown Parking and Transportation Study*, City of Walnut Creek, California, July 2006).

Rationale for regional parking reforms

None of the four regional agencies in the San Francisco Bay Area currently plays a major role in local land use decisions related to parking, yet all have strong collective and independent interests in reforming local parking policies to support regional reduction in vehicle trips, VMT and consequent pollution / greenhouse gas reduction. Each agency is charged with addressing one or more of the following negative externalities produced by the vehicle traffic that is generated by the excess parking required by cities and parking subsidies provided by developers and employers:

- MTC must plan to accommodate or manage high volumes of peak-hour vehicle travel demand that is generated by excessive and subsidized parking
- The Air District must address the added regional air quality impacts of the additional vehicle trips and VMT generated by excessive and subsidized parking.
- ABAG must address housing costs that are made more expensive by excessive residential parking requirements and the standard bundling of parking and residential leases, and buildings that are larger and engender more public opposition due to the inclusion of high levels of parking.
- BCDC must deal with (a) pressure for shore development that is generated by the artificially high cost of housing and commercial development, and (b) the water quality impacts of polluted runoff caused by the additional traffic generated by excessive parking requirements and subsidized parking.

These four regional agencies can address these externalities and advance GHG reduction goals of AB32 and SB 375 by working collaboratively and utilizing their respective and collective resources and authorities to align the interests and garner the cooperation of local governments and other parking stakeholders in pursuing local policy reforms and proven green parking management practices, including the following (Note that local best practices are described in Appendix A, and Case Studies are provided in Appendix C):

1. Enforce the existing state parking cashout law at the local level
2. Expand parking cashout to employers with fewer than 50 employees
3. Charge the right price for curb parking in high demand areas
4. Require undbundled costs for parking and commercial and/or residential space
5. Remove minimum off-street parking requirements
6. Set maximum off-street parking requirements
7. Facilitate transfers of parking rights (TOPR)
8. Amend zoning codes to allow increased Floor Area Rations (FAR)

These are among the most cost-effective, quick to implement, and politically viable policy levers available to reduce VMT and consequent GHG emissions. Implemented in a coordinated fashion by municipalities across the entire Bay Area, these practices can complement the road pricing and focused growth scenarios tested with each investment package evaluated for the recently adopted Regional Transportation Plan (RTP), *Transportation 2035: Change in Motion.*

Even with a combination of aggressive land use and pricing strategies evaluated in the RTP, including a $1 per trip parking surcharge, the MTC travel demand model suggests that the region will not be able to achieve its ambitious targets for improving housing and transportation affordability, and reducing traffic congestion, VMT, GHG emissions, and particulate emissions. A region-wide, market-based “green” parking pricing strategy can help achieve these important regional goals – including GHG emissions reduction – by facilitating the reforms listed above, to eliminate parking incentives and subsidies that influence traveler’s mode choice decisions towards the auto.

The parking practices and strategies identified in this paper have several other benefits relative to alternative strategies for limiting VMT and consequent GHG emissions, including, first and foremost, political viability. Since parking pricing can influence travelers’ mode choice by putting a price at the trip-end, rather than on the journey itself, it may not be perceived as a direct limitation of mobility in the same way as tolls, gas taxes, or VMT fees (all of which can complement the strategies recommended in this paper). The political viability of these parking reforms may also be enhanced by commuters’ familiarity with paid parking in high demand areas.

Parking pricing strategies can also benefit low-income travelers – especially as auto ownership is directly correlated with income; lower income households who own significantly fewer automobiles would benefit by the option of not paying for unnecessary parking that is bundled into their housing costs. Additionally lower income individuals would benefit if some or all of the revenue generated is used for transit service and/or bicycle or pedestrian facilities in the same travel markets.

Section 2. Stakeholders and Policymakers

Effective strategies for parking reform must necessarily satisfy the interests of key public and private sector stakeholders who will be called on for implementation. This section describes the relevant interests, authorities, activities, and potential points of influence of these important stakeholders.

Metropolitan Transportation Commission (MTC)

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. Although MTC has no direct authority over local parking policy, the Commission is responsible for planning the facilities, services, programs, and policies necessary to accommodate, manage, or mitigate the high volumes of peak-hour vehicle travel demand generated by excessive and subsidized on and off-street parking.

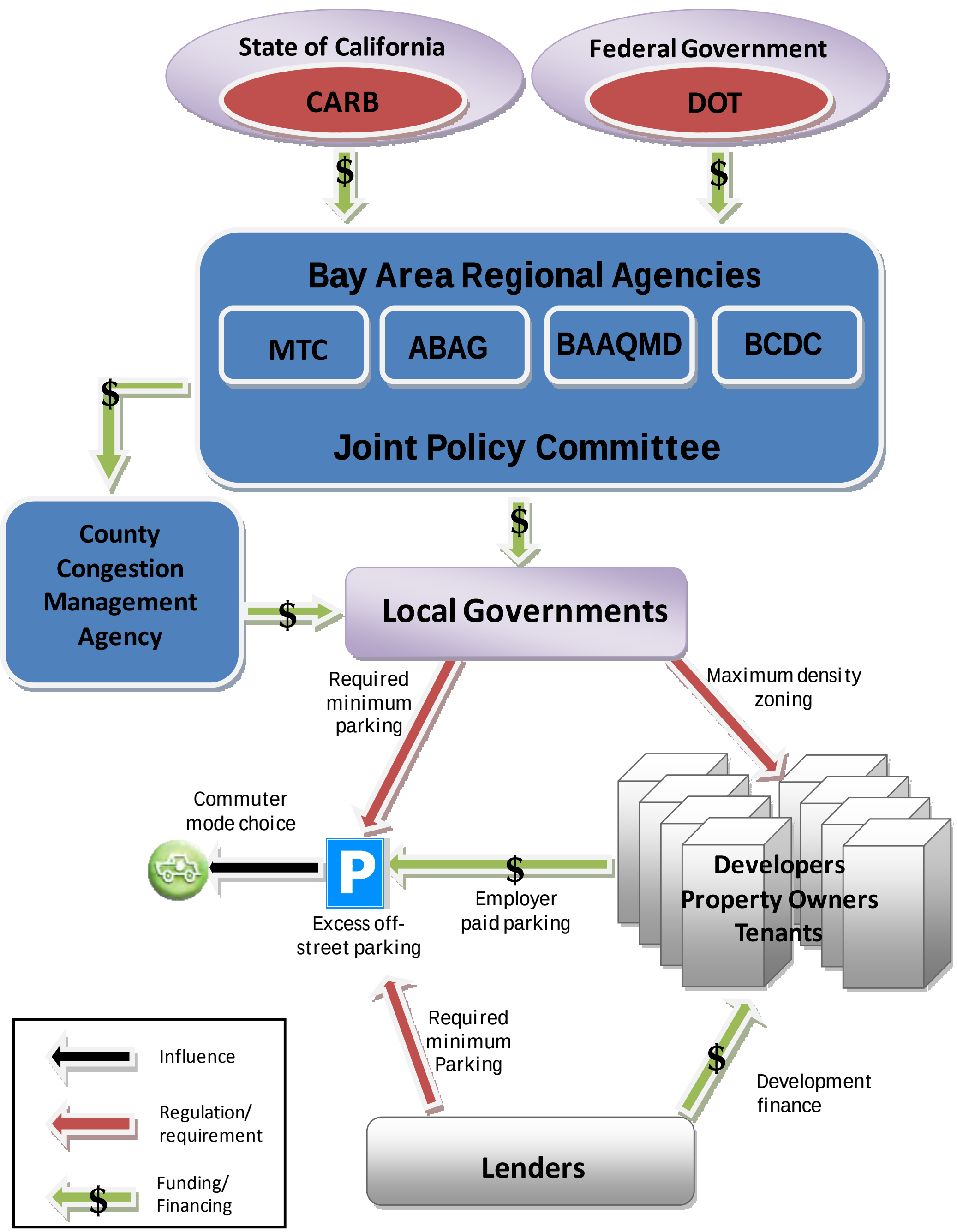
Recognizing the impact that local parking policies have on its strategic goals, MTC has taken on a greater role in parking management in recent years. In 2007, the Commission published the *Toolbox/Handbook: Reforming Parking Policies to Support Smart Growth*, an award-winning guide that describes potential smart parking policies and tools to evaluate and refine parking requirements in areas planned for mixed-use and transit-oriented development. MTC has complemented this guidebook by (1) conducting seminars to train local government officials to implement smart parking policies, and (2) developing a model for use by local jurisdictions to estimate parking demand based on existing and planned land uses, parking availability and cost, shared parking opportunities, availability of transit, and bicycle and pedestrian accessibility.

Association of Bay Area Governments (ABAG)

Although ABAG has no direct authority over local parking policies Nelson\Nygaard believes the agency has strong rationale to take on a significant and constructive role in a regional green parking management strategy. Given its responsibility for planning for and promoting affordable housing, ABAG must address housing costs that are made less affordable by excessive residential parking requirements and the standard bundling of parking and residential leases.

As a regional council of governments, ABAG may promote green parking management through its interactions with member governments for (1) the Regional Housing Needs Assessment, (2) FOCUS, and (3) station area planning.

Figure 2-1 Existing relationships in parking management



Bay Conservation and Development Commission (BCDC)

In its efforts to protect and enhance the San Francisco Bay and address climate change, BCDC must deal with (a) pressure for shore development that is generated by the artificially high cost of housing (see ABAG, above), and (b) the water quality impacts of polluted runoff caused by the additional traffic generated by excessive parking requirements and subsidized parking. Together, Nelson\Nygaard believes these impacts provide sufficient rationale for BCDC to support and cooperate with the other JPC members to implement regional parking strategies for climate protection.

Bay Area Air Quality Management District (the Air District)

Given the substantial regional air quality and climate impacts of the additional vehicle trips and VMT generated by excessive and subsidized parking at employment sites throughout the Bay Area, Nelson\Nygaard believes that the Air District has a strong rationale for enacting parking related fees and regulations to support regional climate protection[5]. The District currently has authority to impose fees on stationary sources of pollution, including GHG emissions, to cover its costs to regulate those sources[6]. Section 40716 of the California Health and Safety Code authorizes the Air District to regulate all "areawide" and "indirect" sources of emissions. Nelson\Nygaard believes that this authority may extend to employer parking for both new developments and existing buildings.

County Congestion Management Agencies (CMA)

County CMA's are state authorized transportation authorities that coordinate the planning activities of local governments and transit agencies that serve each county in the Bay Area[7]. Their responsibility for planning and funding the facilities and services needed to address traffic congestion generated by excessive and subsidized parking provides these agencies with a strong rationale to collaborate with local and regional partners to implement regional parking reforms for climate protection. MTC has included support for the development and implementation of alternative parking policies to support smart growth in the workscope with CMAs, however, the extent of engagement varies considerably between agencies. This role could be strengthened through additional language specifying requirements for monitoring and reporting.

Local Governments

Decisions about parking supply and management are considered to be within local jurisdictions' "police powers" authority to regulate land use[8]. As they consider parking policies and proposals for

[5]The Air District's Climate Protection Program activities to date include (1) hosting a Climate Protection Summit in 2006, (2) conducting a comprehensive inventory of Bay Area GHG emissions from all sources, and (3) awarding Climate Protection Grants to local governments and nonprofit organizations to implement innovative projects to reduce GHG emissions.

[6] In July 2008, the Air District Board approved a GHG emissions cost recover fee.[6] The fee is levied on stationary, permitted facilities and is intended to recover the costs that the District incurs to track and regulate CO2e emissions from permitted facilities and to pay for other Climate Protection Program activities.

[7] Per Sections 65088.1, and 65089.3, California Government Code, MTC provides each CMA with funding for planning activities.

[8] Most city zoning codes establish (1) minimum and/or maximum parking requirements for new development, and (2) allowable uses for existing buildings, based on the number of available parking spaces. By state law, cities are required to "grant appropriate reductions in parking requirements to new and existing commercial developments if they offer parking cashout programs (Sections 65089, California Government Code)."

reform, local governments throughout the Bay Area maintain interests in (1) ensuring access to commercial and mixed-use properties for customers, employees, and suppliers, (2) prevention of spillover impacts on commercial and residential neighbors, (3) reduction in delay of the movement of people and goods, and (4) funding for local transportation projects and services, including street and sidewalk enhancements.

Transit Agencies

Transit agencies play an important role in parking management, and should be part of discussions about local and regional parking polices. Some transit agencies own significant amounts of parking; for example BART provides over 40,000 parking spaces throughout the region. In addition, transit policies and services play an essential role in reducing parking demand, especially in urban downtowns, city centers and other station areas and transit corridors. Parking controlled by transit agencies can also serve as a resource for adjacent land uses during non-peak hours of transit usage.

Commuters

Commuters are primarily interested in the convenience, comfort and cost of their trip. For those commuting in automobiles this includes the parking supply, price and policies. Commuters are also interested in reducing their marginal expenditures for transportation, including both out of pocket expenses for gas, tolls, parking and/or transit fares, and their private contribution to public expenditures for transportation, through taxes and fees. At the typical suburban employment site, with employer-paid parking supplied per typical municipal parking requirements, and no parking cashout option, commuters may not be aware of the value of the parking subsidy provided by their employer but nonetheless have a strong incentive to drive alone to work. Implementation of parking cashout and other transportation demand management programs can help reduce VMT by eliminating commuters' hidden incentive to drive and providing them more and better transportation choices.

Employers

Employers are interested in parking as it relates to the efficiency and ease of access for their employees and customers, employee morale, and corporate public image. In selecting commuter benefits including parking, employers may be influenced by: (1) lenders (through conditions of their loans for development), (2) landlords (through the terms of their lease), and/or (3) local governments that enact parking, commuter benefits, and/or TDM requirements.

The typical suburban employer with a commercial lease that bundles parking (built to city code) with the lease of primary commercial space, has minimal incentive to charge employees for parking, or to cash-out the subsidy for employees who choose not to drive to work[9]. Employers' other hurdles to reform include the transaction costs of program initiation, ongoing administrative costs, including monitoring, enforcement and compliance reporting, and the challenge of aligning parking and transportation benefits for employees across multiple work-sites. None of these barriers appear to be insurmountable.

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[9] Where employers operate in buildings subject to minimum off-street parking requirements, they may not be able to realize cost-savings by implementing parking pricing and cashout programs. In fact, such employers may experience increased costs in the form of cash payments to employees, to the extent that parking cashout and other transportation demand management strategies are effective at enticing employees to take cash in-lieu of a parking space that property-owner is often required by law to provide, and the employer is already paying for through its lease agreement.

Property owners

Owners of commercial and mixed-use properties have a strong financial interest in maintaining accessibility of their sites for tenants and their customers and employees. On many sites developed since the 1950s, the supply of parking was initially established per city code, rather than by market demand. Constrained by existing minimum parking requirements and limits on developable FAR, many commercial property owners have already maxed out their allowable development (and development-related returns) from their sites, and may consequently perceive minimal gain from from reducing parking demand through parking pricing and cashout programs. Even given the opportunity to re-purpose surface parking lots for other uses, through the waiver or elimination of minimum parking requirements, and increased allowable development densities, some developers may remain wary of reducing parking supply for fear that it will limit the allowable or feasible uses, thereby reducing resale value of the property.

Developers

Much like existing property owners, developers of new commercial space and mixed-use projects have a strong interest in developing in a way that ensures multimodal access to their site for the customers and employees of potential tenants. However, developers are in a much better position to be able to take advantage of reforms and programs that can reduce or eliminate parking requirements and increase allowable densities, while reducing parking demand. They are influenced most in their parking supply decisions by the actions and policies of local governments and financiers. In their own decisions about (1) the amount of parking to supply within code allowance and (2) whether or not to bundle parking with commercial or residential leases, developers shape the parking and transportation demand management options of employers and their employees.

Lenders

Even in areas with no minimum parking requirements and zoning codes that offer bonus density allowance for reduced parking supply, some developers face hurdles in their efforts to obtain financing for projects with less than typical parking ratios. Fearing that such non-standard developments may not be leasable, or that they may earn less rent than comparable projects, some lenders may not be willing to provide necessary loan financing. Lenders may be influenced in their evaluation of parking associated with individual development proposals by their understanding of the leasable value of comparable projects with parking supply built to suburban standards.

Section 3. Evaluative Criteria

Nelson\Nygaard proposes the following criteria to help the JPC evaluate the technical, financial, and political feasibility of potential parking management strategies. Regional strategies should be:

1. **Effective** at achieving regional goals for reduction of GHG emissions from the transportation sector within defined corridors and the region as a whole. Strategies that reduce congestion, or shift parking demand, without translating into real and measurable reductions in VMT and consequent GHG emissions, or those which cause an increase in emissions in other corridors, regions, and/or sectors that outpaces local and regional achievements will not meet this essential criterion. The primacy of this criterion highlights the need for effective performance monitoring and evaluation of the outcomes of strategy implementation.
2. **Outcome based,** with specific performance targets: Performance-based strategies with specific, corridor-level and regional targets for reductions in VMT and consequent GHG emissions promise to be the most effective and politically viable, and the easiest to implement and administer. Performance-based strategies will facilitate more locally-appropriate solutions and can tap into the innovation and entrepreneurship of the public, private and non-profit sectors to a greater extent than strategies that prescribe specific implementation methods.
3. **Flexible,** so implementers can "play or pay." Some employers – particularly those with labor contracts and multiple work sites – are limited in the changes they can make to their existing parking and commuter benefits programs at all their work sites. Some cities will be more willing to reform parking codes and management policies than others. Individual stakeholders should be allowed to opt out of any new requirements, either by (a) paying extra fees in an amount commensurate with their regional VMT/GHG emissions impacts, or (b) paying other stakeholders who are able to reduce VMT at lower financing or political cost.
4. **Non-punitive,** so that stakeholders are not penalized for compliance with previous parking policies. For stakeholders in buildings and complexes that were constructed to meet local minimum parking standards, any new parking taxes, fees, or regulations should be calculated based on audited parking utilization rates, rather than parking supply, except in cities where reforms have been passed to enable property owners and/or tenants to capitalize on, or realize cost savings from reduced parking demand. Limits on the expansion or reconstruction of existing parking lots are appropriate if audits reveal excess supply.
5. **Politically viable:** Parking decisions are one of the more high-profile components of local land use decisions. As is often the case with proposed policy changes, the constituency for reform is diffuse, while the constituency for maintenance of the status quo is often quite vocal. Local entities (developers, employers, property owners, and building managers) and their local appointed and elected officials will be responsible for implementing most of the parking management strategies evaluated below and must be involved in their planning. In addition, the local elected officials who sit on the Boards of Directors of each of the regional agencies

must be enthusiastic supporters of these strategies, while the Bay Area delegation to Sacramento must be counted on to advance the necessary legislative reforms.

6. **Financial feasible and cost-effective:** The region should prioritize strategies that are low cost or no cost; especially those that have the biggest “bang,” in terms of GHG emissions reduction, “for the buck” expended by both the public and private sectors. Strategies with moderate to significant costs should be coupled with regional financial incentives and have an identified local funding source.

7. **Easy and efficient to administer:** Difficulties with implementation, administration, and enforcement of the state parking cashout law (see Appendix B Special-Focus on Parking Cashout) and some previous employer trip reduction requirements highlight the importance of considering the implementation steps of all relevant stakeholders in program design. Strategies that are easy and efficient to administer will be (a) transparent and simple to understand for the public and implementers, (b) supported with proper funding and targeted technical assistance; will (c) have clearly defined roles and responsibilities for stakeholders, including enforcement agencies, (d) provide a clear nexus with climate protection goals, with most of any fee or tax revenue dedicated to sustainable transportation or other climate protection-related activities, and (e) be accountable, with periodic monitoring and evaluation.

Section 4. Potential Regional Strategies

Significant actions must be taken by the regional agency members of the JPC and partner organizations to promote, facilitate, and in some cases require local governments and parking stakeholders to implement green parking reforms including the best practices listed in Chapter 3, above. This chapter describes potential regional strategies to facilitate the local reforms and best practices highlighted in Appendix A.

All of the policy, program, and regulatory actions and strategies identified below are based on Nelson\Nygaard's understanding of the existing statutory authorities of each regional agency, and our own assessment of alternatives, and are not intended to represent formal proposals by any stakeholder or agency. Potential regional strategies include:

1. Lead by example

The member agencies of the JPC should set an example for other employers in the region by implementing each of the relevant employer-focused policies and programs recommended in this memorandum, including negotiating to unbundling parking from usable commercial floor space leased by the agencies, charging employees the full cost of parking at the workplace, offering a full parking cashout option, subsidizing transit passes, and providing an equivalent monthly benefit for commuters who use other alternatives to driving alone to work.

2. Expand technical assistance and clearinghouse functions

Coordinated and targeted technical assistance to local governments, developers, development financiers, property owners, and employers will be essential to help these stakeholders make the transition from the status-quo to implementation of green parking practices. MTC currently provides trainings and guidance to assist local government officials with the implementation of smart parking policies. With the help of its regional partners, MTC can expand its current role as a technical resource for local governments by providing technical assistance to key private sector partners, assisting with marketing and promotion of green parking strategies and alternative transportation programs, and serving as an information clearinghouse, facilitating sharing of best practices between implementers. ABAG may also be able to provide technical assistance in the area of green parking management, as part of its county/sub-regional extension planning efforts and through its interactions with local governments during the Housing Element review process. The immediate expansion of technical assistance and regional clearinghouse functions could be funded with the priority allocation of available discretionary or grant funding from MTC (drawing on funding dedicated to the Transportation Climate Action Campaign, as proposed in the recently adopted RTP *Transportation 2035: Change in Motion)*, and/or the Air District (drawing on funding from its existing fees on stationary sources of pollution, including GHG emissions).

Potential technical assistance strategies include:

- Hire or train a dedicated employee of the Joint Policy Committee (JPC), or one of the regional agencies to serve as a full-time "Regional Parking Coordinator," to manage a Green Parking Management Program, and to coordinate technical assistance provided by agency staff.
- Initiate a Regional Parking Technical Assistance Program (TAP), similar to MTC's existing PTAP, to help jurisdictions develop new parking requirements, including allowance of TDM in-lieu of parking, incorporation of parking cashout programs, and provision of universal transit passes for residential and commercial areas. MTC or one of its regional partners would develop a short list of "smart parking consultants," and would select the most appropriate firm for each jurisdiction, based on special areas of the firm's expertise, the jurisdiction's previous experience with the firm, the firm's geographic proximity or familiarity with the jurisdiction, and the jurisdiction's preference. Local governments would be expected to work directly with their TAP consultants to revise parking requirements.
- Provide trainings, in-depth technical support and troubleshooting for local governments and key private sector stakeholders in green parking management reforms. Team up with professional associations, development interests, and environmental advocacy groups, such as Institute of Transportation Engineers, Women in Transportation, Urban Land Institute, and Transform, to promote green parking management reforms in the Bay Area.
- Assist municipal planners with revisions to local parking requirements and reform of on-street parking management practices, working with the Congestion Management Agencies, local Mayors' Councils, transit agencies and other relevant agencies.
- Assist developers and financiers with planning and implementation of projects that have incorporated reduced parking and dynamic parking management. This includes providing technical support for parking utilization and demand analysis (including shared parking analysis, where appropriate) and "comps" data to allay concerns that reduced parking supply will harm a project's market performance.
- Train and assist employers with administration of parking cashout and other transportation demand management (TDM) programs to reduce parking demand. (Employers' human resources departments are often ill-equipped to lead in this area). The PTAP could provide administrative technical assistance to human resources departments, and help identify and train employee transportation coordinators to facilitate implementation.
- The four regional agencies currently review and comment on the potential transportation, air quality and climate impacts of major plans and projects on an ad-hoc basis. With greater resources and coordination, the regional agencies can support necessary green parking reforms by reviewing and commenting on the parking-related GHG emissions impacts (and recommend potential parking-related mitigations) for all plans, policies and proposals for development projects of "regional significance."

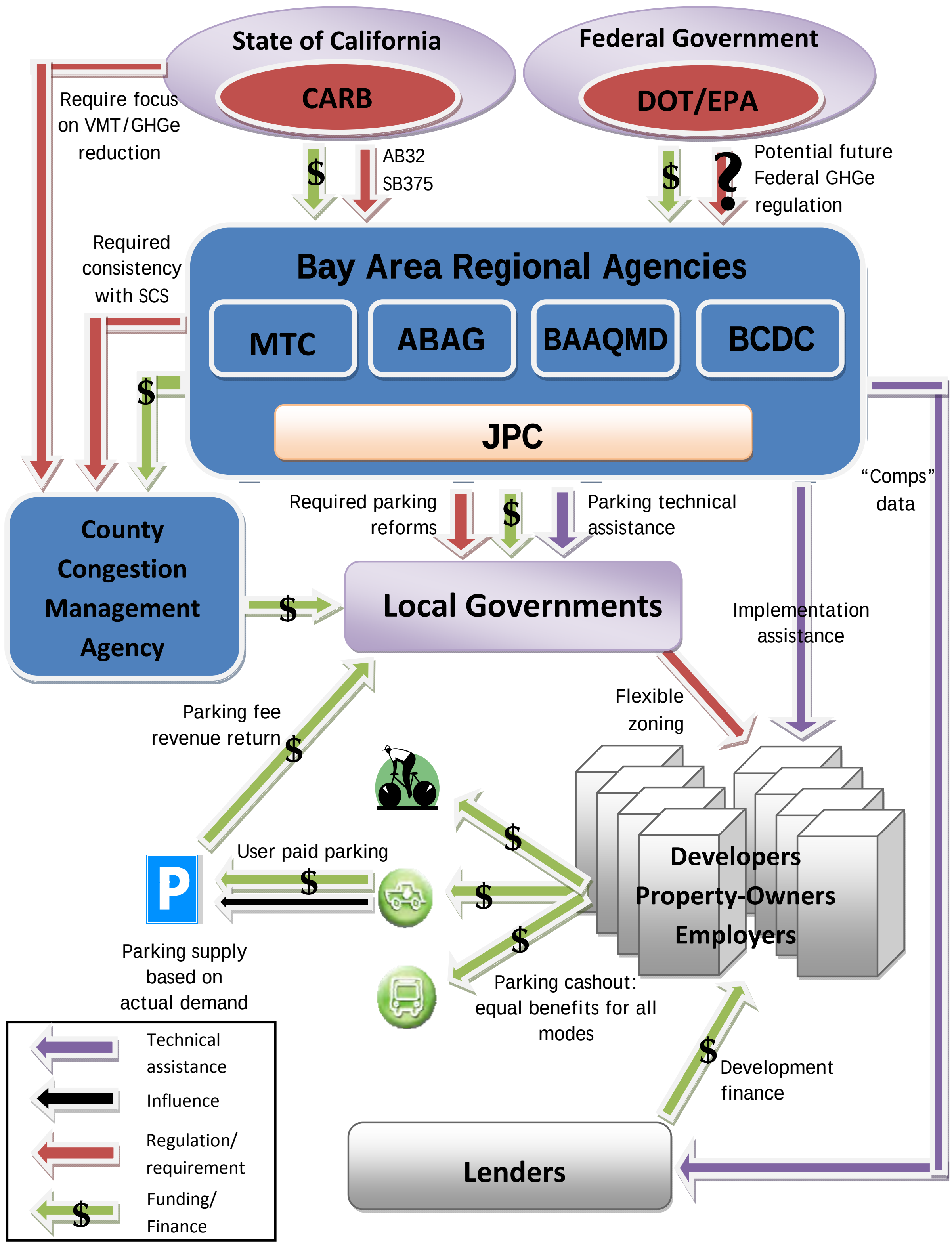
3. Initiate a Green Parking Certification Program

Much as the Leadership in Energy and Environmental Design (LEED) certification program administered by the US Green Building Council has spurred a sustainable building boom, a Green Parking Certification Program could help achieve widespread regional adoption of parking reforms. Such a program could reward communities and individual employers and developers who lead the way forward as the first to implement the recommended suite of parking policy and program reforms:

- Administered by the JPC, or one of the four regional agencies, such a program would establish policy and program reform targets for local governments, developers, and employers that vary based on the transit accessibility of their location and for employers by their industry sector (e.g. regional medical clinics would have different standards than offices housing professional service firms).
- Through a coordinated marketing strategy, regional agencies would highlight the successful implementation of parking reforms by certified cities, projects, and employers, articulating the connection between parking policies and climate change.
- Regional agencies may also consider requiring communities to meet certain Green Parking Certification standards in order to receive planning assistance, infrastructure, or service funds from MTC, or one of the other regional agencies. Legislation requiring cities to implement selected parking and TDM measures was recently proposed by Senator Lowenthal (D-Long Beach)[10].
- Immediate funding for development of a Green Parking Certification Program could come from discretionary funding in the current year budget of MTC (drawing on funding dedicated to the Transportation Climate Action Campaign, as proposed in the recently adopted RTP *Transportation 2035: Change in Motion*), and/or the Air District. Ongoing administration of such a program could be funded by revenue collected through new parking fees collected by MTC, or the indirect source fees under consideration by the Air District (see below), increasing the Air District's existing regional carbon tax, possible new indirect source fees on employers and developers, or the Transportation Climate Action Campaign proposed in the RTP *Transportation 2035: Change in Motion.*

[10] SB-518 (Lowenthal), See Appendix 3

Figure 4-1 Potential relationships in parking management



4. Provide grants to encourage local reforms

Utilizing funding from an expanded Transportation for Livable Communities (TLC) Program, the Transportation Climate Action Campaign proposed in the adopted *Transportation 2035* RTP, the Air District's GHG emissions fee, and/or new "indirect source" fees, or regional parking fees (see below), the regional agencies can offer matching grants to incent local governments to:

- Implement local parking cashout programs
- Revise parking requirements (tailored to different development contexts, eliminating minimums, and instituting maximums where appropriate)
- Institute Transportation Demand Management (TDM) ordinances and programs
- Implement parking impact fees on new development: Each parking space facilitates a certain number of vehicle trips with impacts on regional congestion and GHG emissions. A parking impact fee could be assessed based on a local nexus study quantifying these impacts. The provision of matching grants to cities that opt to pilot such a per-space municipal parking impact fee could lay the ground work for eventual implementation of a region-wide parking fee, proposed as a mid to long-term strategy below.

5. Offer performance-based trip reduction grants to employers and third-party entrepreneurs

Develop a methodology for measuring "baseline" VMT at the jurisdiction or corridor-level and provide incentives for VMT reductions (similar to the Washington State Department of Transportation [WSDOT] "Corridor Trip Reduction" program, which sets a price per vehicle trip reduced and pays any jurisdiction, employer, or third party that can produce verifiable trip reduction benefits, based on performance).[11]

6. Engage Congestion Management Agencies

MTC and its regional partners can work directly with Bay Area Congestion Management Agencies (CMAs) to leverage the influence they have over local jurisdictions as the coordinators of proposed transportation projects/programs in each county. MTC has a unique opportunity to influence the plans and projects of the nine CMAs, to prioritize the evaluation of proposed RTIP projects and programs that support VMT and GHG emissions reduction goals when it renegotiates its planning agreements with each CMA in 2009. As an initial act of good faith and intent to cooperate with regional efforts to reduce GHG emissions each CMA should commit in its CMA agreement to (1) establish direct and indirect GHG emissions as a key project and program evaluation criteria, (2) commit to evaluate and prioritize projects based on total and per-capita GHG emissions, and (3) ensure that all of its plans, projects, and programs are updated in the future, as necessary to be consistent with the developing regional Sustainable Communities Strategy (SCS). MTC could also strengthen the CMAs role in multimodal planning through development of a regional multimodal level of service methodology for use by CMAs, and additional support and monitoring of current CMA efforts regarding "routine accommodations".

[11] For more information, see www.ecy.wa.gov/climatechange/2008CATdocs/IWG/tran/tran_VMT05_TRPPbriefing_V07.pdf.

7. Engage transit agencies

Some transit agencies in the Bay Area are reforming their parking policies in a number of important ways, including changes in pricing, and a more flexible approach regarding requirements for replacement of parking to support transit oriented developments at transit stations. The regional agencies can engage local and regional transit agencies in the San Francisco Bay Area directly in supporting climate friendly parking policies through reforms to agency parking prices and policies, station area development plans and coordination with local jurisdictions. Commuter parking facilities can also be used for other purposes during non-peak times for transit use, such as weekend and evening entertainment, for both denser urban areas and more suburban locations, (as being explored for the new development at the MacArthur BART station). MTC can engage the major transit agencies in discussions about reforming parking policies as part of its planning, coordinating, and state and federal funding distribution functions.

8. Enact Air District Regulations

Although it does not currently have explicit federal or state authority to regulate vehicle trips, VMT, or GHG emissions (The District's regulatory authority is currently limited to so-called "criteria pollutants"), Nelson\Nygaard expects that federal authorization for such regulation may be forthcoming. If the District is vested with such authority by the federal government, Nelson\Nygaard recommends that it (1) enact requirements that cities amend their zoning and municipal codes to implement a selection of the effective municipal parking reforms listed above, and in Appendix A, especially elimination of minimum parking requirements and implementation of 'parking cashout' by all employers with employer-paid parking, and/or (2) directly regulate the supply and management of parking on private property as indirect sources of GHG emissions.

9. Levy graduated per space impact fees on parking (exempting spaces that are priced or 'cashed-out')

As noted above, the elimination of subsidies for driving through market-based parking pricing is among the most cost-effective ways to reduce vehicle trips, total VMT and consequent GHG emissions. Although pricing off-street parking is a cost effective means of both financing the construction and operation of parking facilities and managing parking supply, individual employers, businesses and whole cities are reluctant to break the norm of subsidizing employee and customer parking such that it is available free of charge to the user. Nelson\Nygaard believes that the best way

for the regional agency members of the JPC to encourage local governments and individual property owners and employers to adopt market-based parking pricing and the other local parking management best practices recommended in Chapter 3, is to utilize existing authority or to secure new authority as necessary to levy a graduated, per-space parking fee that exempts any employer and/or property owner who charges market rates for parking, or otherwise passes on the full cost of owning, maintaining and operating parking facilities to the users themselves (see below).

With proper public deliberation and program development, such a parking fee can be implemented in within 2-5 years as an integral part of the regional Sustainable Communities Strategy (SCS), or independent of its planning and development:

- **Incorporate parking in new "Indirect Source" fees levied by the Air District:** Section 40716 of the California Health and Safety Code authorizes the Air District to regulate "areawide" and "indirect" sources of emissions. The Air District is currently evaluating its options for indirect source review and may take a proposal for new indirect source regulations to the Air District Board of Directors as soon as January of 2010. The design and adoption of an Indirect Source Rule is one of the six joint actions for climate protection currently under evaluation by the members of the JPC. Nelson\Nygaard believes that the District's authority may extend to both new and existing indirect sources including employer parking. Existing examples of indirect source regulations include the San Joaquin Valley Air Pollution Control District's Indirect Source Rule (ISR 5910, 2006), the first of its kind in the nation, which factors parking supply and proposed Transportation Demand Management (TDM) strategies into an Air Impact Assessment (AIA) and resulting fee assessment for each new development in the Valley[12]. Under the same indirect source authority, the Air District could levy an annual or one-time parking impact fee on individual property owners, based on the number of parking spaces they provide free of charge or with some level of subsidy.

- **Extend the Air District's GHG emissions fee to parking:** The District may also consider levying a parking fee by extending the existing GHG emissions cost-recovery fee to mobile and indirect sources of emissions, including parking spaces at employment sites that generate commute related GHG emissions.
- **Seek new authority for MTC to levy a parking fee:** In addition to seeking state authority to collect a gas fee instead of a gas tax, MTC could seek state authority to levy a climate change impact fee on all non-commercial parking spaces throughout the region.

Regardless of which agency levies the fee – under what authority – the implementing agency can enhance the effectiveness of other local parking management best practices by adopting the following implementation principles (consistent with the evaluation criteria, above):

- **Graduate fees:** Any fee should be assessed to property-owners and/or employers on a graduated basis that is inversely proportional to the amount they charge for parking, or the amount they currently offer to commuters as a cash alternative to parking ("parking cashout"). Such a fee would be graduated so that property owners would be exempted if (a) they or their tenants charge a per-space user fee for parking, or (b) they unbundle parking from the lease of commercial space and all tenants certify that they pass the full-cost of parking on to their employees, or offer all of their employees the option of taking cash in-lieu of a parking subsidy.
- **Return 100% of revenues to source:** A fee on parking would have the greatest climate protection impact and the greatest political viability if all revenue collected within a defined area (e.g. station area, municipality, corridor, county, etc.) were returned to local authorities to be spent on any local project, program, or service that is consistent with the regional Sustainable Communities Strategy and otherwise supports the goals of SB 375, and AB32 (Global Warming Solutions Act).

10. Condition distribution of regional transport funding on local implementation of reforms

Similar to MTC's Transit Oriented Development (TOD) Policy ("Resolution 3434"), MTC could condition distribution of regional funding for transportation infrastructure and services (especially for parking structures) on the adoption at the local level of a full suite of parking management policies with parameters set by MTC (similar to minimum density requirements for development along transit

[12] Rather than assessing a fee based on some unit of leasable commercial space, the parking and transportation portion of any "indirect source" fee levied by the district should be based on vehicle trip generation projected using URBEMIS (the Urban Emissions Calculator), or a similar model that factors in parking price and availability as well as the full impact of parking cashout and other TDM programs.

corridors). An alternative approach would be to amend the existing TOD Policy to include transit-supportive parking requirements.

11. Require locals to adopt unbundling and vehicle trip reduction ordinances through SCS

Through its integral role in the development of the Sustainable Communities Strategy (SCS), ABAG could require its member cities to: (a) implement selected TDM programs, and parking policy and management reforms including the elimination of minimum parking requirements from a list of options provided by ABAG (a “Parking and TDM Checklist”), and/or (b) adopt legislation requiring the unbundling of parking spaces and residential units in all lease and sale agreements for residential complexes with four or more units. These measures would facilitate green parking management practices that are consistent with the goals of SB 375, and help achieve the Association’s dual objectives of climate protection and improved housing affordability. This strategy can best be implemented by members of the JPC over a 2-5 year time-frame as an integral element of the development of the Sustainable Communities Strategy (SCS).

Section 5. Evaluation

The strategies described above represent a range of options that the regional agencies can pursue in the near to mid-term to encourage, facilitate and/or compel the local parking practices and policy changes that will be necessary to achieve regional GHG reduction goals. With a few exceptions, all of the strategies satisfy or exceed the evaluation criteria listed above, but they differ substantially in their political viability, administrative difficulty, and effectiveness. To assist the JPC agencies with strategy selection, Figure 5-1, below provides a relative comparison of the strategies against each of the evaluation criteria, while the following section, and Figure 5-2, highlights the recommended implementation timeframe, process, and lead implementation agency for each.

Generally, the strategies break down into several groups: The first, including (1) Leading by example, (2) Expanding technical assistance programs, (3) initiating a Green Parking Certification Program, and (4) Providing grants for local parking reforms, represent the “low hanging fruit” of the regional strategy options, because they are the easiest to administer and most politically viable – in part because they offer the “carrots” of assistance, funding, and/or recognition, without “sticks,” such as fees, regulations, requirements, or conditions. MTC plans to pursue each of these strategies in 2010. They can and should be fully implemented as soon as possible (all can be implemented without legislative changes and independent of the process of developing the regional Sustainable Communities Strategy [SCS]).

Strategy (5), Offer performance-based vehicle trip reduction grants, is another “carrot” based strategy that promises to be politically popular and potentially very effective. This is a purely outcome-based strategy that would allow the region to tap into the entrepreneurship and innovation of the private sector to address the twin challenges of traffic and climate change.

The second group of strategies involves reaching out, beyond the membership of the JPC, to engage Congestion Management Agencies and transit agencies (strategies (6) and (7) respectively) directly as key partners in parking reform. These strategies may be more controversial, because they involve changing long-standing practices of large institutions, and may require negotiating new terms for relationships between agencies. However, given the wide influence these agencies have in shaping and accommodating travel demand, Nelson\Nygaard believes it will be well worth it to involve these key partners in reform as soon as possible. This outreach can be initiated immediately by JPC member agencies without any legislative changes, fully independent of, and in fact facilitating the development of the regional Sustainable Communities Strategy (SCS).

The third and final group includes bold, high-impact strategies that represent major changes to the political, financial, institutional, and administrative status-quo. Although these strategies – including (8) enacting Air District Regulations, (9) levying graduated impact fees on parking, (10) conditioning the distribution of regional funding on implementation of local parking reforms, and (11) requiring adoption of local “unbundling” and vehicle trip reduction ordinances – are all politically challenging, they also promise to be among the most cost-effective options for the region to achieve its GHG emissions reduction goals.

Ultimately, in addition to the “carrots” offered in strategies (1) through (4), regional agencies will need to exercise their limited authority (or seek to expand it where necessary), to pursue at least one of these regional “sticks,” in order to achieve region-wide adoption of the local parking reforms that are needed for climate protection. All can be implemented within 2-5 years, independent from, or as part of the development of the regional SCS, although key legislative changes would be required to garner authority for the Air District to enact certain regulations on employers, property-owners and/or local governments [Strategy 8], or for MTC to levy climate change impact fees on parking [Strategy 9] (note: such a fee may also be assessed to property-owners as part of the "indirect source" rules currently under development by the Air District).

Figure 5-1 Expected Effect of Each Strategy Relative to Established Evaluation Criteria

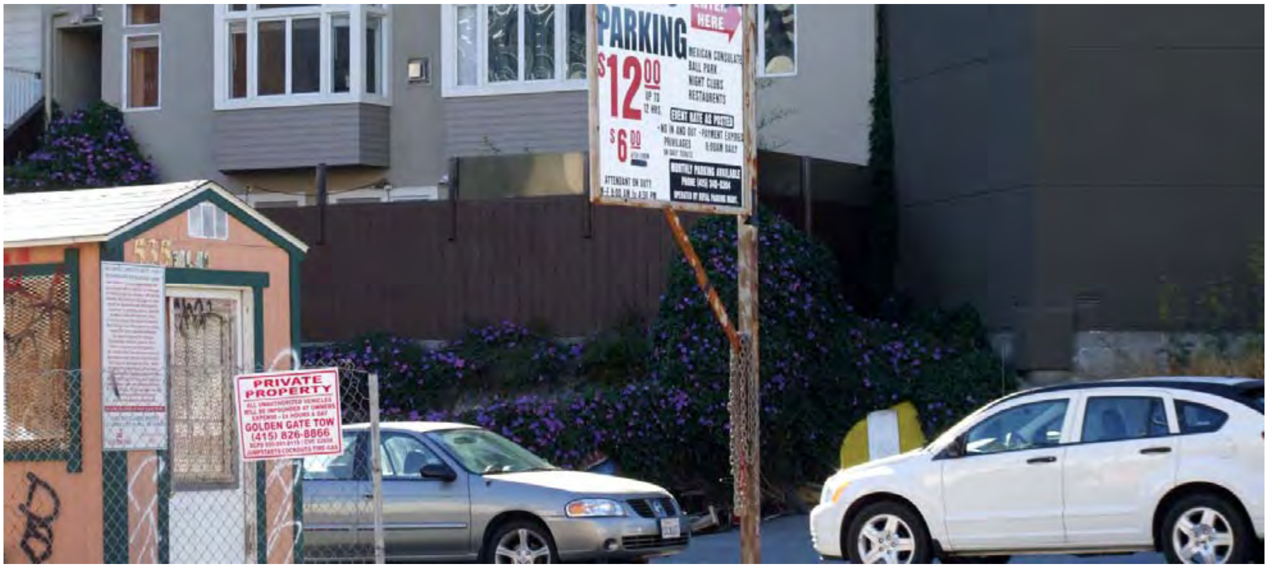
0 = Does not satisfy criteria, 1= Minimally satisfies criteria, 2 = Fully satisfies criteria, 3 = Exceeds criteria

Potential Regional Actions/Strategies		Effective	Outcome-based	Flexible	Non-punitive	Politically viable	Financially feasible	Easy to administer
1	Lead by example: Implement parking pricing, cashout, and TDM programs for all regional agency employees	0	0	0	3	3	3	2
2	Expand technical assistance and regional clearinghouse functions	2	0	2	2	3	3	3
3	Initiate Green Parking Certification Program for cities	1	1	1	2	2	2	3
4	Provide grants for local parking reforms	1	1	1	2	2	2	2
5	Offer performance trip-reduction grants to employers and entrepreneurs	2	3	3	2	3	1	1
6	Engage Congestion Management Agencies on parking	2	0	0	2	1	3	1
7	Engage transit agencies	1	1	1	2	2	3	2
8	Enact Air District Regulations: Require local governments and/or property owners to implement reforms	3	1	0	1	1	3	1
9	Levy graduated per space impact fees on parking (exempting spaces that are priced, or 'cashed-out')	3	2	1	1	1	3	1
10	Condition distribution of transport funding on implementation of local parking reforms	3	2	1	1	1	3	2
11	Require locals to adopt unbundling and vehicle trip reduction ordinances through the SCS	1	1	1	2	1	3	2

Figure 5-2 Implementation Process for Potential Regional Strategies

Potential Regional Actions/Strategies		Implementing Agencies	Implementation Timeframe	Requires Legislative Change	Can be implemented…	
					…independent of SCS	…as part of SCS
1	Lead by example: Implement parking pricing, cashout, and TDM programs for all regional agency employees	All JPC members	1-2 years	No	Yes	No
2	Expand technical assistance and regional clearinghouse functions	All JPC members	1-2 years	No	Yes	Yes
3	Initiate Green Parking Certification Program for cities	All JPC members	1-2 years	No	Yes	Yes
4	Provide grants for local parking reforms	All JPC members	1-2 years	No	Yes	Yes
5	Offer performance trip-reduction grants to employers and entrepreneurs	All JPC members	2-5 years	No	Yes	Yes
6	Engage Congestion Management Agencies on parking	MTC	1-2 years	No	Yes	Yes
7	Engage transit agencies	MTC	1-2 years	No	Yes	Yes
8	Enact Air District Regulations: Require local governments and/or property owners to implement reforms	Air District	2-5 years	Yes	Yes	No
9	Levy graduated per space impact fees on parking (exempting spaces that are priced, or 'cashed-out')	Air District or MTC	2-5 years	Yes (if levied by MTC)	Yes	Yes
10	Condition distribution of transport funding on implementation of local parking reforms	MTC	2-5 years	No	Yes	Yes
11	Require locals to adopt unbundling and vehicle trip reduction ordinances through the SCS	ABAG	2-5 years	No	Yes	Yes

Section 6. Monitoring and Enforcement



Monitoring the performance and effectiveness of any and all strategies implemented by the regional agencies, and enforcing any program rules, regulations, and/or penalties is necessary to achieve regional GHG emissions reduction goals. The approach that regional agencies and stakeholders take will determine whether each strategy fulfills evaluation criteria highlighted in Chapter 3, above, and will go a long way towards determining the ultimate success of the reform program.

Nelson\Nygaard recommends the following approach to monitoring implementation and outcomes:

1. **Local governments** – having selected and passed the parking reforms appropriate for their respective communities – should hold developers, property owners, and their tenants accountable for implementing parking and TDM programs, as required. Following the model of the City and County Association of Governments of San Mateo County (C\CAG), developers/tenants would be required to conduct their own periodic surveys of employee travel patterns to facilitate corridor-level and regional assessment of program performance, but would not be held directly responsible for the extent to which these programs are actually used[13].
2. **Regional agencies** should monitor and hold local governments accountable for (1) implementation of selected green parking reforms (e.g. passage of parking cashout requirements, or on-street parking pricing), (2) employer/property-owner implementation

[13] Nelson\Nygaard recommends that employers be exempted from requirements that they regularly survey employees about their travel patterns if they provide all employees with the option of taking cash in-lieu of a parking subsidy in an amount that is greater than or equal to the cost of purchasing a regional transit pass. Such a policy is in effect in Bellevue, Washington, where employers are not required to conduct or report surveys of employee transportation patterns so long as they can demonstrate implementation of a parking cashout program, that gives employees the option to receive enough cash to purchase a monthly Metro transit pass in lieu of receiving a conventional transportation subsidy in the form of an employer-paid parking space (see Appendix B).

rates, and (3) city or corridor-level performance in terms of reduced VMT and consequent GHG emissions reduction.

This model has the advantages of reducing administrative and monitoring costs born by individual property owners and employers (by not requiring that they regularly report to both local and regional governments), improving the accuracy of employer performance reporting, promoting flexibility for employers and local governments within defined corridors, and focusing attention and effort on outcomes at the corridor-level and regional scales – where they matter most.

Conclusions and Recommendations

The regional parking strategies recommended in this paper offer the potential to significantly reduce GHG emissions from the transportation sector within the San Francisco Bay Area. Because individual local governments have broad authority to shape land use regulations, including local on- and off-street parking policies, they are essential stakeholders in any effort to address climate change through parking policy or management reform. While local actions are absolutely necessary; a regional role is essential to provide a strong regional framework and support system so that local jurisdictions are enabled and encouraged to reform local parking policies with regional support. Given the regional scale of the impacts, the fragmentation of local governments and resulting intra-regional competition for new development, employment, and tax revenues, and the geographically limited authority of local governments, regional agencies have an essential role to play in the coordination and facilitation of green parking management.

To design and implement effective regional strategies for parking reform, Nelson\Nygaard recommends that the JPC collaborate with transit agencies, Congestion Management Agencies (CMAs), and regional stakeholders to implement a comprehensive Regional Parking Strategy for Climate Protection. This strategy must include both near-term “carrots,” and longer-term “sticks,” that together provide parking stakeholders and local governments across the region with sufficient motivation, resources, and support to implement necessary reforms.

In light of the interests, authorities, and relationships of key local and regional parking stakeholders and the criteria recommended in Section 3, Nelson\Nygaard recommends that JPC member agencies pursue following strategies, highlighted in Section 4, as Regional Agency Climate Priorities for 2010, and beyond, including: (1) lead by example, by implementing full-cost/market-based parking pricing, parking cashout and TDM programs for all regional agency employees, (2) expand technical assistance functions to support developers, lenders, property owners, and employers with parking reform, (3) initiate a Green Parking Certification Program to recognize and reward local governments the implement reforms, (4) provide grants to local governments to encourage local reforms, and (5) offer performance-based vehicle trip reduction grants to innovative employers and entrepreneurs who can demonstrate results.

During the same one to two year period, we recommend that MTC, or the JPC as a whole implement Strategies (6) and (7) to engage influential Congestion Management Agencies (CMAs), and transit agencies in smart parking management at the local and regional level.

As complement to these near-term measures, and to ensure the region-wide adoption of the local parking reforms necessary to achieve state and regional targets for GHG emissions reduction from the transportation sector, Nelson\Nygaard recommends that JPC member agencies pursue at least one of the “sticks,” from among the last group of strategy options, including (8) enact regulations under Air District authority, (9) levy per space climate change impact fees on parking under Air District “indirect source” authority, or potential new MTC authority, (10) condition distribution of transportation funding on local reforms, or (11) require adoption of local “unbundling” and vehicle trip reduction ordinances, as part the development of the Sustainable Communities Strategy.

All of these regional strategies should be designed and implemented in a way that is consistent with the regional Sustainable Communities Strategy, and other regional, state, and federal climate protection initiatives. If implementation, monitoring, and enforcement measures, are consistent with the principles of the evaluation criteria established above (e.g. if individual employers and local governments are provided “flexibility” in the means of implementing changes, given the option to pay or perform, etc.), the region can avoid the pitfalls of previous efforts to regulate vehicle trips, such as Air District Rule 1, Regulation 13, that was repealed in the 1990s.

In an era in which public- and private-sector resources are severely constrained, governments at all levels are searching for cost-effective strategies to induce sustainable economic activity, and individuals are aware of and concerned about the climate impacts of their daily travel in a way that we have never seen before. Regional parking reforms led by the members of the JPC can save money for governments and public agencies and most of the other parking stakeholders identified in Section 2, and can play a pivotal role in transforming the Bay Area's travel patterns, minimizing our transportation-sector GHG emissions, and solidifying the region's role as a national leader in climate protection.

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APPENDICES

Appendix A. Local parking reforms

Some of these reforms can be implemented immediately by cities, to reduce VMT and consequent GHG emissions by changing travel behavior in the near term (1-5 years). Others, such as requiring that parking costs be unbundled in commercial and residential leases, and elimination of minimum parking requirements promise to change travel behavior indirectly by facilitating and removing barriers to the widespread implementation of parking pricing and parking cashout. Many of these reforms also promise to influence travel behavior and consequent GHGe over the long-term (15+ years) by facilitating changes in urban form and development patterns that are expected to reduce vehicle travel demand and consequent GHG emissions.

Figure A-1 Best practices in local parking management and regulation

	How does reform Reduce GHG emissions?			Where is this reform appropriate for implementation?	
	Directly impacts travel behavior…		Changes travel behavior in the long-term by promoting compact development	In Priority Development Areas (PDA) or urban/urbanizing areas	In low density suburban areas
Local Government Best Practices	Near-term	Long-term			
Enforce the existing state parking cashout law at the local level	X			X	X
Expand parking cashout to employers with 10-50 employees	X			X	X
Charge the right price for curb parking in high demand areas	X		X	X	
Require unbundling of parking costs		X	X	X	X
Remove minimum space requirements for off-street parking		X	X	X	X
Set maximum parking requirements		X	X	X	
Facilitate transfers of parking rights (TOPR)		X	X	X	
Change zoning to allow increased Floor Area Ratios (FAR)		X	X	X	X
Require transit passes, carshare, bicycle amenities and/or other TDM for new developments	X		X	X	X

Recognizing the economic and environmental benefits, some local governments have proceeded to implement these reforms on their own. Appendix C highlights case studies of some of these best practices, including: (1) the San Francisco Commuter Benefits Ordinance, (2) phased elimination of minimum parking requirements in Petaluma, (3) a TDM checklist by the City/County Association of Governments (C/CAG) in San Mateo County, (4) the Vehicle Trip Reduction (VTR) ordinance in South San Francisco, (5) implementation – under the South San Francisco VTR ordinance – of parking cashout by the Genentech Corporation, (6) the use of maximum parking requirements and transfers of parking rights in Portland, Oregon, and (7) commute trip reduction and unbundled parking requirements in downtown Bellevue, Washington.

Getting parking right is more important than ever to the economic and environmental sustainability of the San Francisco Bay Area. The Bay Area's regional agencies can and must play a coordinating role – facilitating the transfer and adoption of best practices in parking management at the local level, where power and authority are vested by the state. Research shows that the following list of local parking management reforms and best practices can and should enable communities to reduce VMT and consequent GHG emissions. These local best practices indirectly reduce emissions in three ways:

- By encouraging travel behavior change (e.g. mode shifting from driving to taking public transit) in the near-term (1-3 years)
- By facilitating parking cashout and other TDM strategies that encourage travel behavior change in the near to mid-term (1-15 years)
- By facilitating changes in urban form that will change travel behavior over the mid to long-term (15+ years).

Many of these reforms have been successfully implemented here in the Bay Area and elsewhere on the West Coast *(*for several case studies of local parking reforms, see Appendix B), providing models for the regional agencies and individual communities to follow moving forward. However, not all of these best practices are appropriate for implementation in all areas, or by all municipalities. Each reform identified below falls into one of three categories, as appropriate for implementation in:

- Priority development areas (PDAs), and other urban areas with high transit accessibility, and /or
- Low-density suburban areas outside of PDAs

The following section provides a description of each of the best practices in local parking regulation and/or management, highlighting the process and timeline by which each reform is expected to reduce emissions and the geographic areas in which each is appropriate for implementation.

Reforms that can reduce VMT by changing travel behavior in the near-term (1-2 years):

1. **Implement the existing state parking cashout law,** which requires employers with 50 or more employees who lease parking to offer their employees cash in-lieu of the commuter benefit typically provided in the form of employer-paid parking. This simple measure produces impressive results. A 1997 study of employers in Southern California found that implementing parking cashout reduced employee VMT by 12% on average.
2. **Expand parking cashout to employers with 10 to 50 employees:** This expands the potential impact of parking pricing and parking cashout five-fold since such small firms

control leases on approximately 80% of all employer-paid parking spaces[14]. Given the low administrative costs of implementing parking cashout (Shoup [1997] found that parking cashout increased employer administrative costs by no more than $2 per employee per month), and the regional technical assistance proposed below (see Section XYZ), Nelson\Nygaard believes that this requirement will not impose an excessive cost on small employers.

3. **Charge the right price for curb parking in high demand areas:** Demand-based pricing of on-street parking spaces can ensure availability of one to two spaces per block for arriving motorists. This policy not only reduces parking search time for individual drivers, it also reduces the traffic associated with "cruising for parking," which studies demonstrate accounts for approximately 28% of all traffic in urban environments.[15] This policy is also effective at encouraging drivers to utilize excess parking capacity in off-street lots when on-street demand (and prices) rise. Any revenue increments generated by demand-based pricing can be utilized to finance local transit, bicycle, and pedestrian improvements that encourage non-polluting non-motorized travel.

Reforms that influence travel patterns by facilitating parking pricing, parking cashout, and changes to urban form that promise to reduce vehicle travel demand over the long term:

4. **Require the unbundling of parking costs:** Parking is often included with the lease or rental cost of commercial or residential space. Hiding the cost of parking in this way can result in higher rents, prices for goods and services, vehicle ownership and more commuter traffic. Requiring property owners to unbundle parking from residential and commercial leases enables implementation of parking cashout (see #1 and #2 above), and allows those building owners/managers who successfully reduce parking demand to realize savings on parking costs.

5. **Remove minimum space requirements for off-street parking:** Parking requirements are often established with no data on actual parking demand for a particular land use activity or building location. Often, far more parking is required by cities than is actually needed on a day-to-day basis and little consideration is given to the opportunity for adjacent uses to share parking spaces. Furthermore, minimum parking requirements are not needed to prevent "spillover" parking problems in areas that have adopted market-based pricing of on-street parking (see #3 above) or residential permit parking zones. Elimination of minimum parking requirements is a sensible reform that removes a significant barrier to appropriate development in transit-accessible areas, and allows property owners and developers to capitalize on reduced demand for parking (thereby encouraging developers, property owners and property managers to support parking pricing, parking cashout, and other TDM measures that can reduce parking demand). As an alternative to elimination of minimum parking requirements cities may permit developers and property owners to satisfy all or a portion of their off-street parking requirement by paying "in-lieu fees" that can be used to fund (a) construction and operation of shared public parking facilities, or (b) other local access and mobility improvements that can reduce VMT.

Reforms that promise to reduce vehicle travel demand over the long-term by facilitating focused growth and compact development:

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[14] Shoup, Donald C. (1997), "Evaluating the effects of cashing out employer-paid parking: Eight case studies," *Transport Policy*, Vol. 4, No. 4, p. 213.

[15] Shoup, Donald C. (2006). "Cruising for parking," *Transport Policy*, Vol. 13, p. 479.

6. **Set maximum parking requirements:** Establishing a maximum number of parking spaces allowed for particular locations (e.g. half-mile proximity to transit) and/or land uses (e.g. mixed-use transit-oriented-development [TOD]) can help reduce driving and emissions through a simple process: Maximum parking requirements encourage property owners/managers to impose a market-based price on parking to align demand with reduced supply. If they don't price parking businesses will need to offer strong incentives for their employees and customers to use alternative modes of transportation in order to avoid shortages of parking, resulting in congestion and frustration. This reform effectively eliminates a strong incentive for driving and favors transportation alternatives.

7. **Facilitate transfers of parking rights (TOPR):** In communities that elect not to eliminate minimum parking requirements, property owners who find that they have an excess of on-site parking can capitalize on this underutilized resource and reduce the need for others to construct additional parking facilities nearby by transferring the right to park on their property directly to another employer or property owner or by selling the rights to an area-wide "parking bank" operated by the local government or a local nonprofit transportation management association. Facilitating transfers of parking rights can help reduce VMT and consequent GHG emissions by providing a strong financial incentive for developers and property owners to support unbundling parking (see #4 above), parking cashout (see #1 and #2 above), and other TDM programs that can reduce parking demand on-site, allowing them to sell or lease their unused parking resources.

8. **Change zoning to allow increased Floor Area Ratio (FAR) as an incentive for reduced parking:** Permitting development at increased FAR on properties that reduce or eliminate their parking supply can provide a strong incentive for developers and property owners to support parking pricing, parking cashout, and other measures that reduce parking demand. To allay concerns of neighbors, this reform can be implemented without necessarily increasing building heights, or dramatically altering the character of neighborhoods, by permitting and facilitating development on underutilized parking lots that is consistent with the height, form, and design of adjacent buildings, and/or existing zoning codes.

Appendix B. Special Focus on Parking Cashout

Overview

Parking cashout programs ensure that all employee commute modes are subsidized equally and create incentives for commuters to carpool, take transit, and bike or walk to work. Parking cashout is a program by which employers who offer free or reduced price parking to their employees are required to offer an equal "transportation fringe benefit" to employees who use modes other than driving alone to get to work. These employees can use the money to purchase transit passes, cover expenses of commuting by carpool, vanpool, bicycle, or on foot, or simply take the cash as additional take-home salary (if they walked to work for example).

Many employers in the Bay Area (including local governments) provide free or reduced price parking (e.g. a subsidized price usually below lease costs and well below the full costs to build, operate, and maintain the parking) for their employees as a fringe benefit. Under a parking cashout program, employers can either:

- Subsidize all modes equally by continuing to offer subsidized parking on the condition that they offer the cash value of the parking subsidy to any employee who does not drive to work, ideally in one of the following two forms:
  - A transit/vanpool subsidy equal to the value of the parking subsidy (of which up to $105 is tax-free for both employer and employee)
  - A taxable carpool/walk/bike subsidy equal to the value of the parking subsidy.
- Discontinue all parking subsidies by charging employees market rates to park in an employer-provided space. Employees who opted to cashout their parking subsidies would not be eligible to receive free parking from their employer, but could still drive to work whenever they chose so long as they paid the market-rate parking charges on the days they drove.

Benefits of parking cashout

The primary benefit of parking cashout programs implemented to date is reduced VMT and parking demand. A 1997 study found that the volume of drive-alone commuting fell by 17%, and total commute VMT fell by 12% for eight firms that offered parking cashout in the Los Angeles region. It should be noted that most of these employers were located in areas that do not have good access to transit service, so that a large part of the reduced parking demand that occurred with these parking cashout programs resulted when former solo drivers began carpooling.[16] Financial incentive programs similar to parking cashout have been implemented by cities, colleges, and individual employers across the country, covering tens of thousands of employees and hundreds of firms. The findings show that, even in suburban locations with little or no transit, financial incentives can substantially reduce parking demand. On average, a financial incentive of $70 per month reduced parking demand by over one-quarter. At the University of Washington, a

[16] Donald Shoup (1997). "Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies," *Transport Policy,* Vol. 4, No. 4, October 1997, pp. 201-216.

financial incentive of just $18 per month reduced parking demand by 24%.[17] As these studies indicate, *it is often more cost effective to pay people not to drive than to accommodate their vehicle trip.*

Drawbacks of parking cashout

Although parking cashout has been effective where fully implemented, the impact of California's existing Parking Cashout Law (AB 2109, Katz; Chapter 554, Statutes of 1992), has been muted by the limited number of employers required to participate, the difficulty of enforcement, and administrative barriers. For example, under current State law, parking cashout is only required for those employers with 50 or more employees, who lease their parking, provided that parking lease costs are itemized separately from building lease costs. It is unknown how many employers the law applies to, but it is assumed to be a small percentage, concentrated in urban office buildings. Furthermore, while the California Air Resources Board (CARB) is nominally responsible for monitoring and enforcing compliance with the State's parking cashout law, it does not have the resources or local expertise to conduct effective enforcement (in fact, many California jurisdictions are not even aware of the requirement).

The administrative costs of *initiating* parking cashout programs and the ongoing expense represent barriers to more widespread implementation. Currently, the typical scenario where instituting parking cashout makes financial sense for an employer/developer is when all of the following conditions are met:

- Employer/developer wants to expand onto an adjacent surface parking lot and can realize cost savings by avoiding expensive construction of new parking facilities, or when employer/developer is funding a new building on a site that requires structured parking.
- Municipality will reduce or eliminate minimum parking requirements so required supply matches post-cashout parking demand.
- Employer has sufficient HR resources to address complex program implementation, and lacks labor obstacles such as bargaining units that cover multiple employment sites with agreements for consistent parking policies at all sites.
- Employer/developer plans to hold site for long term, and is therefore unconcerned about loss of resale/lease value if site is perceived to be underparked.
- Local TDM program requirements already require significant investment in alternative modes and ongoing program monitoring.

To facilitate widespread adoption of parking cashout programs, the regional agencies of the San Francisco Bay Area will need to use all available leverage to establish the above conditions.

[17] Sources: Willson, Richard W. and Donald C. Shoup. "Parking Subsidies and Travel Choices: Assessing the Evidence." Transportation, 1990, Vol. 17b, 141-157 (p145); Cornell University Office of Transportation Services. "Summary of Transportation Demand Management Program." Unpublished, 1992; United States Department of Transportation. "Proceedings of the Commuter Parking Symposium," USDOT Report No. DOT-T-91-14, 1990; Employers Manage Transportation. State Farm Insurance Company and Surface Transportation Policy Project, 1994; Miller, Gerald K. "The Impacts of Parking Prices on Commuter Travel," Metropolitan Washington Council of Governments, 1991; Shoup, Donald and Richard W. Wilson. "Employer-paid Parking: The Problem and Proposed Solutions," Transportation Quarterly, 1992, Vol. 46, No. 2, pp169-192 (p189); Williams, Michael E. and Kathleen L Petrait. "U-PASS: A Model Transportation Management Program That Works," Transportation Research Record, 1994, No.1404, p73-81.

Programs may include:

- Reward municipalities for adopting tough, performance-based TDM requirements for new development, such as those imbedded in South San Francisco's East-of-101 Specific Plan, San Mateo's Rail Corridor Plan, and the NASA Research Park TDM Plan in Santa Clara County.
- Reward municipalities for eliminating minimum parking requirements or reducing them to levels where they are no longer an obstacle for parking cashout.
- Provide technical assistance for employers interested in implementing cashout.
- Provide data analysis for real estate "comps" on building value impact of less-than-typical parking.
- Provide data analysis on total financial impact to employers of parking cashout programs.

Although priced parking is less common in areas outside of traditional town centers, cities and employers in suburban areas can realize major benefits from implementing parking cashout programs. In addition to the environmental and air quality benefits of reduced driving to work, suburban employers can benefit by limiting the cost of acquiring land for, constructing, operating and maintaining new parking facilities. Employers also see benefit from offering more flexible benefits to their employees.

Appendix C. Case Studies

San Francisco, California

Commuter Benefits Ordinance

In January 2009, San Francisco's Commuter Benefits Ordinance (Ordinance 199-08) went into effect. Under this local ordinance, all employers with 20 or more employees are required to offer a commuter benefits program to their employees. This ordinance promises to contribute to reduced parking demand, reduced VMT, and ultimately reduced greenhouse gas emissions in the Bay Area by equalizing the subsidies/benefits available to commuters using all modes of transportation (similar to parking cashout).

The Federal government currently allows employees to deduct up to $230 per month from their paychecks, pre-tax, to pay for transit and vanpool expenses. Under the Commuter Benefits Ordinance affected employers are now required to allow their employees to participate in the existing federal government's program as described above. Employees who work an average of at least 10 hours per week while working for the same employer within the previous calendar month are eligible.

Employers have three options for providing commuter benefits to their employees and may offer a combination of options 1 and 2:

1. **Pre-tax Transit:** Under existing Federal Tax Law 132(f), employers set up a program that allows employees to use up to $230 a month in pretax wages to purchase transit passes or vanpool rides.
2. **Employer Paid Transit Benefits:** Employer pays for workers' transit fares on any of the San Francisco Bay Area mass transit systems or reimburses workers for their vanpool expenses. Reimbursements for transportation expenses must be of at least an equivalent value to the purchase price of a San Francisco MUNI Fast Pass, which is presently $45.
3. **Employer Provided Transit:** Employer offers workers free shuttle service on a company-funded bus or van between home and place of business.

Employers can administer the benefit themselves by purchasing transit tickets or vouchers that can be redeemed for passes, tickets, and vanpool expenses each month and distributing them to employees or employers may hire a third-party administrator to manage their program.

The Department of the Environment may issue employers a fine for non-compliance. The current fee structure is: $100 for a first violation, $200 for a second violation within the same year, $500 for each additional violation within the same year.

Petaluma, California

Phased elimination of parking requirements

Petaluma, California is one of the first cities in California to eliminate minimum parking requirements. This city of 54,548 residents located 39 miles north of San Francisco in rural/suburban Sonoma County undertook a 7-year long process to develop the "Central Petaluma Specific Plan." In June 2003, the City Council adopted a form-based zoning code defining the plan. This case study looks at the role of parking in this process, including the adopted two-step process elimination of minimum off-street parking requirements for specific land-uses.

The 400-acre area covered by the Central Petaluma Specific Plan includes historical buildings and a wide variety of land uses such as small shops, warehouses, car dealerships, vacant lots and some old strip malls. The goal of the plan was to revive the downtown economy and create a pedestrian-friendly environment.

In 2002, the City began a process to convert the textual zoning code into a form-based code or "Smart Code" which visually depicts zoning requirements. Such a code primarily regulates the form of buildings, while allowing great flexibility for the uses inside the buildings to change over time. Traditional parking zoning codes typically create problems when building uses change over time.

Planners realized that conventional parking requirements would make fulfilling the community vision for the area virtually impossible to achieve. They determined that such requirements would have:

- Conflicted with the urban design vision of small lot sizes. The amount of parking required would have either consumed entire parcels, required parking structures too tall for the vision, or below grade structures that would have been financially and physically infeasible (due to the level of the water table).
- Prevented the renovation of old buildings, since they have little room for new on-site parking.
- Encouraged the construction of anti-pedestrian buildings (e.g. buildings that sit behind or hover above a parking lot).
- Prevented a vibrant street life, since they would have permitted everyone to park immediately adjacent to their destination thereby avoiding use of the sidewalk.

During a six-month process the City and its planning advisory committee to agree on the following parking strategies that were included in the code:

- **Create a "Park Once" environment.** A "park once" environment is a shared parking environment. There is no need to have a specific parking standard for every type of land use that could be developed. Instead one overall standard was developed for use in the short-term.
- **Make parking respect the pedestrian.** The code ensures pedestrian and parking compatibility with garage-specific design guidance and parking requirements.
- **Manage on-street parking.** The code manages on-street parking by creating metered or time-limited zones of different time durations. These were to be phased in over time, but were required to occur within five years (by 2008).
- **Provide shared garages.** The code defines the placement of the garage to ensure that users pass by multiple land-uses and economic opportunities. The code also specifies garage pricing strategies to favor short-term parking over long-term parking.
- **Phase out on-site parking requirements.** The code not only phases out the on-street parking requirements but phases out parking requirements all together in a two-step process.

In the first phase, an overall parking standard of 3.3 spaces/1,000 square feet was established. This is fairly typical for office space in suburban areas, but lower than what is typically prescribed for retail and restaurants. The 3.3 spaces/1,000 is a lower standard than what would have been built with the existing standards, which were land-use specific. For example, the original standards included 1 spaces/60 square feet of dining area for restaurants (17 spaces/1,000 square feet) and 4 space/1,000 square feet of business-service office). The only land use specific requirement was established for residential at one space per dwelling unit. The first phase also establishes an "in-lieu parking fee" option. If a development does not want to construct its minimum parking requirement, it can pay into a fee that will fund a new shared parking structure within the specific plan area.

In the second phase, all parking requirements were dropped. The second phase was set to begin within five years of plan adoption, or when the following conditions are met. First, effective management of the on-street spaces was to be established with time-limited or metered parking. Second, residential permit parking districts were to be established within and adjacent to the area to address "spillover" parking demand. Finally, a site for a public parking garage, or a shared public/private garage and confirmed funding for the structure was to be in place. None of these conditions were met during the initial five-year period after plan adoption in 2003, however, as required in the code, all off-street parking requirements were eliminated in Central Petaluma in June of 2008.

San Mateo County, CA

San Mateo C/CAG Trip Reduction Guidelines

The City and County Association of Governments (C\CAG) serves as the state designated Congestion Management Agency for San Mateo County. As such, C/CAG is responsible for preparing a periodic Congestion Management Program for the County. To comply with Air District Regulation 13, Rule 1, C\CAG developed a set of guidelines for the implementation of the land-use component of the congestion management program that includes TDM requirements for new development[18]. Whereas many other Congestion Management Agencies have since abandoned their TDM requirements in the face of opposition from employers and developers, the flexible nature of the program implemented in San Mateo County has led to continued success and innovation.

C/CAG guildelines must be followed for all projects that are projected to generate a net increase of 100 or more peak hour vehicle trips, and local governments are encouraged to apply the guidelines to all projects that the jurisdiction believes may have an impact on local or countywide traffic conditions.

Rather than requiring or prescribing specific actions by local governments, the C/CAG guidelines provide a framework and a recommended set of options for achieving vehicle trip reduction goals. Local governments are responsible for ensuring that the developer, property-owner, and/or tenant will "reduce demand for all new peak hour trips projected to be generated by a development [and] can select one or more of the options that follow," or may propose other methods for mitigating vehicle trips. C/CAG recommended options include:

1. Reducing the scope of the project
2. Accepting a one-time payment from the project sponsor of $20,000 per peak hour trip to fund ongoing TDM implementation (if a jurisdiction collects its own transportation impact

[18] City and County Association of Governments of San Mateo County (C/CAG), "Guidelines for Implementing the Land Use Component of the Congestion Management Program, " as amended by the C/CAG Board of Directors, September, 2004. Note that Air District Regulation 13, Rule 1: Employer Trip Reduction Requirements was suspended in 1996, following passage of SB 437.

fee, the "portion used to mitigate the impacts of the project's traffic will count as credit toward the [required] reduction in trips.")

3. Adopt CMA guidelines for projects
4. Require the developer and subsequent tenants to implement a package of TDM programs that have the capacity to fully reduce demand for new peak hour trips
5. Negotiate with C/CAG staff for other acceptable ways to mitigate trips

These C\CAG guidelines are not meant to limit choices, and note specifically that "it is up to the local jurisdiction, working together with the project sponsor to choose the method(s) that will be compatible with the intended purpose of the project and the community that it will serve."

Project sponsors and tenants that are required to implement TDM programs may choose a combination of complementary TDM measures from a checklist developed by C/CAG. Each of the following strategies has been assigned a peak hour vehicle trip reduction value that is based on evidence from transportation-related academic and professional research and the best professional judgement of C/CAG staff. TDM measures include the parking related measures shown in Figure B-1, below.

In addition to these measures, C\CAG offers to credit each employer/tenant with reduction of up to three peak hour trips for conducting a twice-yearly survey of employees, to examine their travel patterns and assess performance of specific TDM measures and the program as a whole. Although individual commuters are not subject to monitoring and enforcement of TDM provisions by cities or other outside agencies, and developers/property owners and their tenants are not responsible for actual participation rates, or trip reduction performance, employers are accountable to local governments for program implementation[19]. This combination of auto-enforcement and accountability can serve as a model for implementation of a flexible but results-oriented regional parking reform agenda.

Figure B-1 C/CAG San Mateo TDM Checklist

TDM Measure	Trip Reduction Credit
Charging employees for parking	Two peak-hour trips will be credited for each parking spot charged out at $20 per month for one year. Money shall be used for TDM measures such as shuttles or subsidized transit tickets.
Implementation of a parking cashout program	One peak-hour trip will be credited for each parking spot where the employee is offered cash payment in return for not using parking at the employment site.
Encourage shared parking	Five peak hour trips will be credited for an agreement with an existing development to share existing parking
Participate in/create/ or sponsor a Transportation Management Association	Five peak hour trips will be credited

[19] C/CAG TDM guidelines state that, "the developer/tenants will not be held responsible for the extent to which these programs are actually used [but] the developer shall pay for a monitoring program for the first three years of the development. The purpose of the monitoring program is to assess the compliance of the project with the final TDM plan."

Coordinate TDM programs with existing developments/employers	Five peak-hour trips will be credited

South San Francisco, CA

Vehicle Trip Reduction Ordinance

South San Francisco's Trip Reduction Ordinance allows reduced parking requirements for projects that implement specified TDM requirements.[20] The ordinance applies to nonresidential developments that expect to generate 100 or more average daily trips, or to projects seeking a floor area ratio (FAR) bonus. Parking reductions are not fixed, but are subject to case-by-case review and are dependent on the number and extent of TDM elements.

For example, the brownfield, mixed-use Bay West Cove development was able to reduce required parking by 10% by implementing the following TDM strategies:

- Parking charges of at least $20 per month for all employee single-occupancy vehicle parking spaces
- Free parking for carpools and vanpools
- Late-night taxi service and feeder shuttle service
- Transit subsidy of $25 per month for all tenant employees
- Guaranteed ride home program
- Provision of a transportation coordinator
- On-site project amenities such as child care, showers and lockers, electric vehicle charging, bicycle storage facilities, and a transit information kiosk.
- Close proximity to rail and bus services

South San Francisco, CA

Genentech Corp. Parking Cashout Program

Genentech, a major employer and property owner subject to the Vehicle Trip Reduction Ordinance in South San Francisco, currently offers a cash (in lieu of parking) subsidy of $5 per day for all employees who do not drive alone the firm's campus East of US-101. This incentive for leaving the car at home is part of an ambitious and comprehensive transportation demand management program that includes a 100% subsidy for employee public transit expenses (this is in addition to the payments for not-driving), an online ridesharing service that helps employees find other commuters to share rides on an as-needed basis, active and customized marketing to employees and frequent surveys to

[20] South San Francisco, while immediately south of the City of San Francisco, is a suburban community. Most of its commercial development is a large office parks in an area east of the freeway that is served by transit/shuttle connections.

measure employees individual and collective progress in reducing vehicle trips to the Genentech campus.

This innovative company, which was named one of the Environmental Protection Agency's 'Best Workplaces for Commuters' in 2004, has even gone so far as to provide its own transit connections where regional public transit services are lacking. Genentech provides a free shuttle to connect its campus to a commuter rail station located approximately 20 minutes away, and an extensive and free (to employees) regional bus service tailored to the needs and schedules of its employees.

Genentech's parking cashout program and its "gRide" program of support for transportation alternatives have made a measurable impact on the firm's contribution to global climate change. In just one year, from 2006 to 2007, commute related CO2 emissions per employee declined by 8.6%[21].

Factors of success in Genentech's innovative transportation demand management programs include:

- **The City:** Trip reduction requirements imposed by the City of South San Francisco are specific and targeted but provide ample flexibility for meeting goals.
- **Cost savings:** Genentech was seeking to expand, so stood to realize the cost savings ($100 million by their count) by reducing drive-alone commuting enough to avoid constructing additional parking. They realized it was cheaper to pay their employees not to drive than to build more parking.
- **Ownership:** Genentech owns the property and plan to hold it long term, so were not concerned about 'underparking' (the impact of having a less than standard number of parking spaces on the resale value of their property).
- **Corporate culture:** The TDM/Parking reform strategy was uniquely attractive to Genentech because it fits (a) The needs of their employees, many of whom are young socially-minded professionals, who value commute schedule flexibility, and (b) The corporate social responsibility strategy which seeks to demonstrate that Genentech is a 'good corporate citizen,' doing its part for the environment by reducing drive-alone commuting.

Portland, OR

Parking Maximums and Transferrable Parking Rights

Portland, OR has introduced some of the most innovative parking policies to reduce automobile trips and consequent GHG emissions in the United States. Among a range of complementary green parking management strategies implemented in one or more Portland neighborhoods are:

- Elimination of parking minimums in the central city
- Establishment of parking maximums downtown and in other neighborhoods based on the availability of transit service
- Transferable parking rights in areas with parking maximums
- Reduced parking requirements for buildings with car-sharing vehicles

[21] Genentech (2007) *Corporate Sustainability Report,* p. 13.

- Reduced parking requirements for vehicle trip reduction strategies, such as transit access and bicycle parking
- Location- and use-specific standards, and
- Provisions for shared parking

Parking maximums in downtown Portland are lower than the parking generation rates published by the Institute of Transportation Engineers, which are the *minimums* adopted by most cities. Portland's maximums for new office and retail development are 1 space per 1000 square feet and 1 space per room for hotels.

The city views the parking maximum as an "entitlement". New developments can either build up to the maximum amount of parking they are entitled to, or they can transfer the right to build those spaces to another development. When new development elects to transfer its rights, it can do so at a rate of 0.7 spaces per 1,000 square feet, which is 70% of the parking maximum entitled to new development. A new development that elects *not* to build parking can transfer its rights at any time.

Transferred rights are generally not sold, but are granted under certain rules of contract that include the following:

- Project X transfers its parking entitlement to Project Y and Project Y pays for parking construction
- Project X retains the right to use its entitled number of spaces to lease to tenants or customers, but must pay market rate to Project Y
- If Project X does not use its spaces Project Y may sell the spaces for its own revenue
- Project X must give Project Y 60 days notice if it wants to re-claim use (i.e. sell to a new tenant) of its spaces.

In addition to parking limits, the city also restricts parking use. There are three different types of parking spaces applicable in downtown Portland:

- **Hotel spaces**: By code, these spaces may only be used by hotel guests, visitors or employees between the hours of 7 am and 6 pm, weekdays. If the hotel is in a slow season, or if not all hotel visitors want parking, the remaining parking spaces go unused—a potential financial liability.
- **"Growth" spaces**: These are the spaces entitled to new development. They have no constraints and can be used however the developer sees fit during all hours and days of the week
- **"Preservation" spaces**: These are spaces generally entitled to older and historic buildings that were constructed without parking and are slightly more restrictive. If the spaces are not used for building occupants they can only be used for other cash uses on a daily or hourly basis.

The Hilton Executive Tower Hotel and garage, developed by Melvin Mark Companies, is located in the heart of the Portland downtown business district, within the Free Transit Zone. Constructed on a block that was the former home to the Greyhound bus terminal, the 20-story, 440,000 square foot project consists of 312 hotel rooms, conference space, 20,000 square feet of ground-floor retail, and 680 parking spaces. The Hilton Hotel is the owner of the hotel portion of the project and a Melvin Mark partnership owns the parking structure. Under the Portland zoning code, the maximum allowed parking for the development would have been 380 spaces—312 “hotel” spaces, plus 68 “growth” spaces for the retail.

Not only did the developers need to make the Hilton’s parking more profitable than allowed under “hotel space” use provision, but they also wanted to accommodate retail and office demand in the area, for which they needed extra parking. They were able to accommodate these needs and build 680 spaces in the following way:

- 100 “hotel” spaces allowed under the zoning code (only 30% of their entitlement).[22]
- 68 “growth” spaces allowed for the retail space under the zoning code (100% of their entitlement).
- 512 spaces where the entitlement was transferred from other developments:
  - 200 “growth” spaces transferred from a concurrent project, the 250,000 square foot Pioneer Place mall. The project wanted the parking to attract customers, but did not want to assume development costs or lose retail density on the site to parking.
  - 312 “preservation” spaces transferred from seven buildings in the area. Most of these were office buildings built at a time when parking was not included.

Benefits

Transferable parking entitlements retain the advantages of maximum parking requirements (reduced vehicle trips and reduced land area devoted to parking), while making them more flexible to meet the needs of different developments.

Transferable parking rights made the Hilton/Melvin Mark development beneficial to all parties involved.

- The Hilton project would not have been as feasible to develop had it not been able to acquire the additional parking spaces and the flexibility to manage parking. The transferred parking entitlements allowed the developers to sell monthly parking passes to preservation buildings prior to development, which acted as a pre-commitment to revenue. The additional parking and more flexible “preservation” and “growth” parking spaces also reduced risk and seasonal fluctuations that the code’s “hotel” parking constraints present. The garage operates with day-to-day averages of 85-90% occupancy from being able to sell to many different users—a major source of revenue for the project.
- Pioneer Place Mall reaps the benefit of being able to attract more customers by having available parking at a site adjacent to the mall, without adding the risk of parking development and/or the loss of retail space to the overall project.
- The preservation buildings that “transferred” their spaces to Melvin Mark Companies also reap significant financial benefit. With parking at the Hilton/Melvin Mark garage and preferential rights to lease to their tenants, the older buildings are able to provide parking they otherwise could not have, thereby leveling their marketability compared to newer buildings.

[22] The Hilton did not use 100% of its hotel space parking maximum, given the restrictions placed on use of these spaces.

Bellevue, Washington

Commute Trip Reduction and “unbundled” parking

Bellevue, Washington, (population 117,137) sits on the east side of Lake Washington, about a ten miles from downtown Seattle. It is a relatively prosperous and growing suburb in the orbit of a much larger city. Bellevue is notable for the progress that it has made in reducing drive alone rates in its downtown, despite the fact that it is not served by rail transit and has minimal influence over its regional transit agency. Perhaps most importantly, at the beginning of the 1990s, its downtown workers were largely auto dependent (with an 81 percent drive alone rate).

The City of Bellevue's Commute Trip Reduction program (CTR) was implemented by ordinance in 1993, two years after the State of Washington adopted the Commute Trip Reduction (CTR) Law, requiring cities in the most populous counties of the State to develop and implement a commute trip reduction ordinance. As of 2006, the Bellevue CTR encompassed 53 employers and roughly 22,000 employees. The ordinance applies to every employer (private, public or non-profit) with 100 or more full-time employees arriving at a single worksite between 6 – 9 am.

As part of its CTR strategy, Bellevue requires downtown office buildings of more than 50,000 square feet to identify the cost of parking as a separate line item in all leases, with the minimum monthly rate per space not less than twice the price of a bus pass. For example, since the price of a monthly bus pass was $72 in 2003, the minimum price of a leased parking space was $144 a month. This requirement for "unbundling" parking costs does not increase the overall cost of occupying office space in a building because the payment for the office space itself declines as a result. In other words, unbundling separates the rent for offices and parking, but does not increase their sum. Bellevue is perhaps unique in routinely requiring the unbundling of parking costs from office leases. This innovative policy has several advantages. It makes it easy for employers to "cash-out" parking for employees (that is, to offer employees the value of their parking space as a cash subsidy if they do not drive to work), since employers can save money by leasing fewer spaces when fewer employees drive. It also makes it easier for shared parking arrangements to occur, since building owners can more easily lease surplus parking spaces to other users.

In addition, the city has shifted from high minimum parking requirements to enforcing parking maximums. The city code now sets no minimums for housing and mixed-use retail located in certain downtown zones. All downtown residential units are limited to no more than two parking spaces. This move to less parking has had a noticeable impact on private employers. The engineering firm CH2M Hill still offers free parking to drive-alone employees, but it also gives $40 per month to employees if they opt instead to walk, bicycle, carpool, or take transit. Ultimately, this saves employers money who no longer have to provide expensive parking and it lightens an employee’s transportation budget.

Trip Reduction Results

Bellevue's CTR sets trip reduction goals in terms of reducing the proportion of single-occupant vehicles and vehicle-miles traveled per employee from the 1992 base year values. These targets started at the goal of a 15% reduction by 1995, rising to 20% in 1997, 25% in 1999, and 35% in 2005. Vehicle commute trips are calculated at one trip per person (two-person carpools counting as ½ trips per occupant, three-person carpools as 1/3 trips, etc.) Each vehicle commute trip eliminated due to telecommuting, alternative work schedules, bicycling, or walking counts as 1.2 trips eliminated.

Results from the Commute Trip Reduction program have been impressive. Overall in downtown Bellevue, the drive alone commute rate fell by 30% from 1990 to 2000, falling from 81% driving alone to 57%. In 1993, after considerable progress in reducing drive alone rates had already taken place, the Commute Trip Reduction went into effect. Among the CTR-affected worksites in the downtown, drive alone rates then dropped from 72.9% in 1993 to 58.5% in 2001, almost a 20% decrease. Among all CTR-affected worksites citywide, the drive-alone rate has dropped from 76.6% in 1993 to 69.2% in 2001 - almost a 10% decrease respectively. These numbers do not meet the ambitious targets set under the Bellevue ordinance, but are notable nonetheless.

Appendix D. State and Federal Legislative Agendas for Parking Reform

The regional agencies discussed in this briefing memo have more leverage than local jurisdictions to change the state and federal legislative framework to support green parking management practices. These agencies also have significantly more leverage when working in coordination with each other and with regional partners in the private and non-profit sectors. To implement some or all of the strategies listed above, and to advance complementary policies and programs that can help achieve regional VMT and GHG emissions reduction goals, Nelson\Nygaard recommends that the regional agencies and their partners advocate a legislative agenda for climate protection with the following elements:

State Agenda for Climate Protection

- **Require user fees for parking:** Require all public institutions to pay the full cost of constructing, operating, and maintaining parking facilities with user fees. This requirement is incorporated in the Charter of the University of California and California State University – two of the largest public institutions in the state – and should be extended to all public institutions. Legislation proposed by Senator Lowenthal (D-Long Beach) applies the parking user fee requirement to all community colleges statewide, but amendments are needed to extend the requirement to all public institutions statewide (see the full text of SB-518, in Appendix C, on Page 53). This is necessary because the state's current expenditures on construction, operation and maintenance of parking facilities, per local municipal parking requirements, is costly, inefficient, and harmful, to the extent that it generates traffic, VMT and consequent GHG emissions. This reform is especially appropriate during difficult economic times, as it will liberate public resources for program-related activities while making public institutions more consistent with state GHG emissions reduction goals.
- **Revise CEQA guidelines:** The current transportation analysis guidelines and conventions of the California Environmental Quality Act (CEQA) encourage low-density development at suburban locations in order to prevent congestion on urban roadways. This conflicts with the goals of CEQA, by contributing to increased vehicle trips, VMT and total GHG emissions and reduces environmental quality by encouraging consumption of farmland and open space. Instead of requiring maintenance of intersection and roadway "level of service (LOS)," CEQA guidelines should be amended as proposed by the state Office of Planning and Research (OPR), to evaluate projects based on their *per capita* Vehicle Miles Traveled and/or GHG emissions[23]. Other necessary reforms include dropping evaluation of parking from the list of environmental impacts evaluated for all development projects, and allowing reduced parking to be considered as mitigation for the projected environmental impacts of each projects' vehicle trip generation.
- **Amend the Congestion Management Agency Charter:** County Congestion Management Agencies were established in 1991 after passage of Prop. 111, to "coordinate transportation planning, funding and other activities in a congestion

[23] Specific support for *per capita* emissions reductions is important so that applicants do not merely reduce the project's size or, worse yet, build several smaller projects while ignoring cumulative impacts.

management program (CMP)[24]." Both the CMAs and the seven-year CMPs that they are charged with implementing focus the attention of elected officials, transportation planners and service providers on a problem – congestion of streets and roadways – that the state, MTC and other regional agencies now consider secondary to the concerns about the climate change impact of transportation. Nelson\Nygaard recommends that the regional agencies of the San Francisco Bay Area collaborate with their partners in the public, private and non-profit sectors to support legislation to amend the CMA charter to focus these key agencies on a mission to improving regional access and mobility while reducing VMT and GHG emissions per capita.

- **Allow Air Districts to require market based parking pricing** in shopping/retail districts: A provision in the State Health and Safety Code (Section 40717.6) precludes Air Districts from requiring parking charges in shopping and/or retail districts. Reforming the Health and Safety Code to allow requirements for market-based pricing in these districts will facilitate implementation of regional green parking management strategies in retail areas, including mixed-use and transit-oriented retail developments in transit accessible locations.
- **Allow Air Districts to implement Employer Trip Reduction (ETR) requirements:** ETR can work effectively as part of a regional Sustainable Communities Strategy for GHG emissions reduction if implemented in a flexible way, with allowance for employers/property owners to (a) pay a fee in-lieu of meeting requirements, or (b) pay other employers/property owners within the same travel corridor to reduce commute vehicle trips above and beyond the amount required[25].
- **Authorize parking fees:** Provide necessary state authorization for MTC and other Regional Transportation Planning Agencies to levy a GHG emissions fee on all parking spaces in the region.
- **Enforce state parking cashout law[26]:** The state should authorize cities and counties to require proof of compliance with the state parking cashout law during business licensing and renewal.
- **Amend California Transportation Commission funding formulas** to prioritize projects and programs that reduce VMT and consequent GHG emissions *per capita.*

Federal Agenda for Climate Protection

- **Equalize incentives for parking, transit, and other alternatives**: Under federal law, employers can provide, as benefits to their employees, an allowance to spend pre-tax

[24] http://www.accma.ca.gov/pages/AboutIntro.aspx

[25] Senate Bill 437 (Lewis) was adopted by the California State Legislature in October, 1995 (Health and Safety Code Section 40717.9). SB 437 declares that public agencies "shall not require an employer to implement an employee trip reduction program unless the program is expressly required by federal law and the elimination of the program will result in federal sanctions or the loss of federal transportation funds." SB 437 was enacted specifically in response to the repeal of the 1990 Amendments to the federal Clean Air Act "employee trip reduction programs." Some jurisdictions in California have interpreted SB 437 to mean that only new employers and development, and not existing ones, can be required to implement TDM programs. To Nelson\Nygaard's knowledge, there is no case law or published legal opinion supporting this interpretation.

[26] Section 43845, California Health and Safety Code

income on various commute related expenses. Current law allows tax-free expenses of up to $20 per month for bicycle commuters, and up to $240 per month for parking or public transit expenses[27]. Equalizing the allowable tax-free expenditures for all modes – or eliminating the benefit altogether – would support VMT and GHG emissions reduction goals by removing a disproportional subsidy for drive-alone commuting. The federal government could also achieve GHG emissions reductions by conditioning receipt of the parking benefit on employer implementation of market-based parking pricing, or parking cashout.

- **Incorporate green parking practices in federal transportation authorization:** The anticipated authorization of the federal transportation funding bill sometime in 2009 may be another vehicle for the regional agencies of the Bay Area to support inclusion of incentives for improved parking management at the local level.
- **Revise Station Area TOD/Parking Evaluation:** Current federal law requires transit agencies to secure a special waiver to build transit oriented development (TOD) on park and ride lots, regardless of local conclusions about the ridership benefits of such development (Note: the Federal Transit Agency (FTA) ridership model does not account fully account for the ridership benefits of transit oriented development). The following reforms are necessary to support TOD that can increase transit ridership:
  - Eliminate the requirement for a federal waiver to build TOD on park and ride lots
  - Revise FTA travel models to account for the full ridership impacts of station area TOD, based on best available data (the San Francisco Bay Area Rapid Transit District (BART) ridership model serves as a model)
  - The FTA should consider an comprehensive station access costs (including both public and private, capital and operating costs) in cost-benefit evaluation of station area TOD

[27] The Federal Economic Revitalization and Recovery Act of 2009, equalized commuters' eligibility for tax-free expenditures on parking and public transit at $240 per month (previously, commuters could only make $120 per month in tax free expenditures on public transit).